

# The National Locksmith®

*electronic  
security*

the big easy  
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rofu wireless cctv  
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August 31-September 2  
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TheNationalLocksmith.com  
Forums...Online Store...Editorial!

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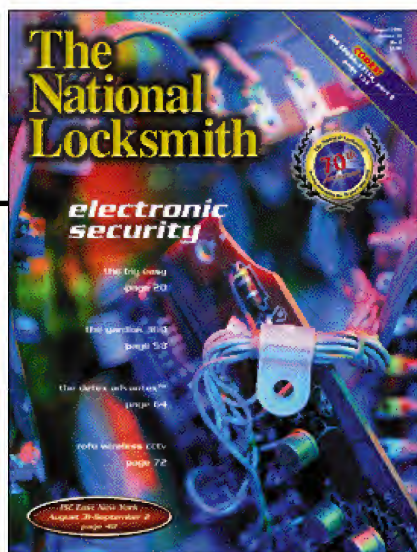
August 1999  
Volume 70  
No. 8  
\$5.00

**CODERS!**  
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**On The Cover...**



Electronic security is easier than ever to use and install with products by: Marray Enterprises, Detex, GardLok, Rofu and Door King, to name a few.

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# COMMENTARY



## Buenos días AutoSmart™!

**G**ood news for AutoSmart™ owners! The 1999-2000 edition is now in stock and ready to ship! We have both the full book as well as the update available. Here's the deal. You no longer have to send us a page out of your old AutoSmart™ to purchase an update. You may order off the ad on page 110 or you may call us with a credit card order at (630) 837-2044, or you may fax your order to (630) 837-1210.

There is a new, lower cost on the update, plus lots of new information in the books. One excellent addition, brought to you by popular demand is tabs separating the car manufacturers. You will get the tabs with either the full version or the update.

The update costs less than in previous years. However, it will only update the 1998-1999 version of AutoSmart™. Therefore, if you have an earlier edition, it cannot be updated, so you should purchase a new book this year, and then next year you can update it. The update this year contains hundreds of new pages and instructions so you can easily and quickly replace old pages from your 1998-1999 version. See page 110 and get your new AutoSmart™ today!

Oh, while we're talking about cars, the Transponder book now features a new lower price also. At \$79.00 it is a real bargain, so if you don't have the Transponder book, you'll want to get yours now. It covers how to program every transponder on every car on the road.

Last week Greg and I traveled to Guadalajara, Mexico to attend the national convention of Mexican locksmiths. We had a blast! We taught modern auto technology to over 350 locksmiths in class sessions which started at 8 a.m. and did not end until 2:30 p.m. Because the locksmiths there were so interested in the information we presented, Greg and I received applause and cheers each time we refused to take our scheduled 15 minute breaks.

One funny thing did happen on the way home, though. At the airport in Mexico, we stopped at the money changing booth to convert our pesos back to dollars. We turned in our money, and as the teller was flipping through the bills, she separated out a 200 peso bill, about \$20, and casually announced, "Es falso," meaning that it was counterfeit.

She showed us the bill more closely, and sure enough it appeared to be a color photocopy, not a real bill. That got me to thinking about the difference between what is real and what is fake.

In our industry, the only thing that is real, that will help you become and remain profitable is skill. The more you know how to do competently, the better you will live. You can study, and you can experiment on your own and you can read this professional journal.

**A**ll this will help you learn more real skill. That's what we're here for at *The National Locksmith*. To help you build real skills. Don't forget to join us at TheNationalLocksmith.com for free information and locksmith forums. It's free and it never closes. That's for real.



**Have questions? Want free technical help?**  
**Free Locksmith Forums!**

[www.TheNationalLocksmith.com](http://www.TheNationalLocksmith.com)

**Marc Goldberg**  
Publisher

August 1999 • 5



# Mango's Message

**A**s you may have read, Marc and I recently returned from a trip to Guadalajara, Mexico. Other than spending the last two days either laying in bed like a sick cow or spending it on the porcelain throne in my bathroom with Montezuma's revenge (travelers diarrhea bestowed upon my intestinal track as a farewell gift from Mexico) I had a great time. Marc and I were invited to teach some classes at the 13th annual locksmith convention held at the Hilton hotel in Guadalajara, which I believe is the second largest city in Mexico. Actually, I was invited to teach, Marc was invited to translate since his Spanish is impeccable and my Spanish is limited to: hola (hello); buenos dias (good morning); buenos tardes (good afternoon); buenos noches (good evening); si (yes); gracias (thank-you); and no comprendo (I don't have a clue what you are saying.)

It was my second visit to Mexico and I must say that I was just as apprehensive this time as I was the first. Being born and bred in the good old U.S. of A, I have heard my share of horror stories from across the boarder, as most North Americans do. Stories such as ransom abductions, counterfeit currency, severe pollution, diuretic water and a corrupt (briable) police force.

Oftentimes, the rumors or stories you hear about a particular destination is little more than an "old wives' tale" handed down through the generations. After being to Mexico for the second time, I can tell you firsthand that my apprehensions were justified. The stories you hear are all true!

I once knew someone who drove his motorcycle into Mexico only to be stopped by the policia (Mexican police) for no apparent reason, have his bike confiscated and then be threatened with incarceration until he offered a hefty American dinero ransom. Not to mention personal abductions reported by the press in exchange for money. Coming from North America, I can tell you that it is a bit intimidating to see policia in cars, on motorcycle dirt bikes, on foot and in front of every bank, major department store, jewelry store or any high cash handling business, with a machine gun strapped across their back. The policia definitely make their presence known because they are usually in pairs and they are everywhere.

If you read Marc's editorial, you heard of his experience on this trip with a counterfeit 200 pesos bill. The teller converting the pesos to cash spotted the counterfeit bill even before she looked at it. I commented to Marc that for her to spot it that quickly, she must see a lot of them. He asked if she did and she confirmed, stating that they



## Viva La Mexico

usually try to counterfeit the 100 pesos bill, but they can never get the red ink quite right. Marc is now stuck with a counterfeit 200 pesos bill that I know he'd be more than willing to trade for a 100 pesos bill as long as the red ink is not blotchy.

**M**exico is considered one of the most polluted countries on the planet and I won't dispute that fact. The pollution is quite noticeable. They still burn leaded gas there and the busses spew coal black smoke at every stop. Take a stroll down any major street in the middle of the day and your eyes will soon be burning and watering.

If you think the saying "Don't drink the water" is just a North American joke, think again. I'm proof that there is a reason why they tell you not to drink the water and to

**Greg Mango**  
**Editor**







Continued from page 6

order your Coke without ice. Even though I took every precaution possible, this lightweight gringo was soon visiting the Tidy bowl man. I will say one thing; it's a great diet aid because I lost over 8 pounds in three days. No more love handles.

**A**fter reading this you may be asking yourself, why would anyone want to go to Mexico if the conditions are so dire? Judging by our standards this may be true, but I can tell you that crossing the border onto most foreign soil raises the same concerns, and in some parts of the world far greater concerns abound. As an international traveler it is (or needs to be) an accepted and understood risk. The cultures are different, the people are different, the traditions, language, lifestyle and economy is different, and it's because of those differences that make it exciting, interesting, educational and potentially dangerous.

Mexico is made up of a proud, hard working people rich in tradition, and other than the outlined minor (yet real) concerns coupled with the inability to fully converse with the people, I had a great time in Mexico and I'd go back in a heartbeat. The people are warm, genuine and hospitable, making up for any inconveniences I may have experienced, been concerned about or heard.

Our excursion started off a bit rocky. Soon after leaving Chicago O'Hare International Airport, we encountered fairly severe turbulence. The stewards just served lunch and we were about to chow down and wham! The plane began a turbulent roller coaster ride. My wife Rachel came along as well and ended up spilling a glass of water all over her. Luckily it was only a glass of water. The stewards must encounter this all the time because they didn't stop serving food or drinks once, as the plane was twisting and turning and rising and falling. Drinks were flying, food was falling and they didn't miss a beat. Amazing.

We landed safely in Guadalajara, were met by an association representative and headed to the hotel via the burros straight out of a Hollywood movie. Little shanties lined the street as people hawked their wares to passerbys.

The next day Marc and I headed to a quick printer to have some class materials printed and assembled. As we were leaving I noticed a locksmith business that if you blinked you would miss it. It was a tiny storefront that housed two businesses. One half was a locksmith business, the other half sold leather purses. The locksmith business had two service technicians in it. One up front rekeying a lock the old traditional way of clamping the bow of a key in a vise, slipping the cylinder over the blade and filing the pins to fit. In the back of the store was another technician picking open a padlock.

On the wall of the store stood a small keyboard with a number of old vehicle ignition

locks hanging next to it. There was one semi-automatic key duplicator and some home made picks on the counter. Marc and I stopped and said "Hola" asked if they would be attending the convention — they were — and we went on our way.


The next day Rachel and I went swimming (which is where we may have caught the bug). Oh, did I forget to mention that Rachel was blessed with Montezuma's revenge as well? I've never been one who likes to experience anything alone.

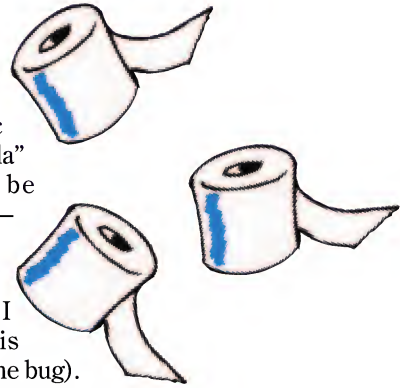
I'm not absolutely certain that it was the pool where we picked up the organism that clashed with our intestines for a few days or if it was the open-air restaurant that we went to later that day. It featured live roosters and peacocks that brazenly danced around our table just waiting for us to drop our guard so one could snatch a piece of food. In fact if I didn't know better, I'd swear that the roosters and peacocks worked in tandem like a band of Gypsies. The roosters would stage a cockfight to divert our attention while the peacock slipped around back to steal our food. You know the economy is bad when even the animals are scamming you.

**T**hat evening Marc partied the night away with the locals, swaggering into his room at 4:00 a.m. only to be awoken by a 7:00 a.m. wake-up call to prep for our class. That'll teach him. I met death warmed over, I mean Marc, in the hotel restaurant as he guzzled a pot of coffee while I repeatedly asked "How many fingers do you see?" When he finally said two, I knew we were ready.

We were about to head for our class to set-up the materials when someone informed us that there was a change in the class scheduling and we would not be teaching that day. All our classes were reassigned for Sunday. You should have seen the look on Marc's face. Here he dragged himself out of bed, was all hopped-up on caffeine and he could see straight and we had nothing to do till the next day.

As it turned out it was for the better. It gave both of us a little more time to mentally prepare for the class and it paid off. We had a great time teaching the better part of the following day to a packed house of enthusiastic locksmiths. It was very encouraging and inspiring to look into a sea of faces eager to learn more. Marc did a superb job translating the class and even though I did not speak in their native tongue, we all spoke and understood the universal language of locksmithing, making us all bilingual.

Now if you'll excuse me, I have to make a donation to the Waste Management System. Hasta la vista. 





# Letters

August 1999

*The National Locksmith* is interested in your view. We do reserve the right to edit for clarity and length.

## AAA Michigan Needs Service Providers

AAA is soliciting locksmith support for trouble service areas in Michigan. AAA is currently contracted to General Motors, VW/Audi and Lexus to provide lockout service for key delivery and/or usage of lockout tools (when applicable). AAA would greatly appreciate hearing from the locksmiths in the state of Michigan and invite locksmiths to provide service for our customers.

AAA may be reached at:

AAA Michigan  
1 Auto Club Drive  
Dearborn, MI 48126-2694  
Phone: (313) 336-1631

Ask for Kal Mukabi, program administrator.

Thank you to *The National Locksmith* for your assistance.

## Need "Cord" Information

I have what I think is an old lock that went on the "Cord" automobile. Could you give me any information on it such as any history, cost, was it



widely used, and is it worth anything?

The plate on the side of the lock reads: This car is protected by the Auto Theft Signal System. \$100 reward for arrest and conviction, for grand larceny, of any person operating this car or tampering with the signal.

Security Manufacturing Company  
- Manufacturers successors to: Miller-Chapman Company.

Patent Aug. 25 1914

It also has Cord in raised letters inside the lock.

Any help would be appreciated. I can be reached at: (423) 487-5473.

Ken Kennedy  
Tennessee

## To The National Locksmith Advertisers

I just purchased a computer last week and *The National Locksmith* website was the first locksmith related site I put in my "America Online (AOL) Favorites" list. I looked at the whole site and after thinking about it, some things came to mind that I would like to tell your prospective advertisers.

I read *The National Locksmith's* website advertiser page religiously. *The National Locksmith* is my primary source for information about the locksmith supply marketplace. Your ads are as valuable to me as the excellent editorial content.

Frequently, the manufacturer or distributor ads are more immediately



valuable to me than the editorial content. When faced with a new requirement it is *The National Locksmith* that I search to find the manufacturer or distributor that makes or sells what is needed. I spend a good two hours or more reading each issue. Please let me know what you have that is new and improved, as well as what you do best, it will sure help me.

I am the only locksmith in town and I must either do it all, or refer customers to someone out of town. A reference out of town is not what a customer wants to hear. Our customer wants to hear that their hometown locksmith can get the locks, parts and knowledge, that is needed to solve their problem. Please note I said our customer. I know that your reputation as well as mine will depend on his satisfaction with how well I use your product. I can only make a customer ours if I can find you to help bring your product into the picture.

Paul Przyborski  
E-Mail

**The National Locksmith**  
**1533 Burgundy Parkway**  
**Streamwood, IL 60107**  
**Attn: Editor**



## Just Trying to Survive

I would like to take this opportunity to congratulate *The National Locksmith* publishing staff and to all the people who make this magazine possible. I recently started a mobile locksmith business and I contribute much of that occurrence to *The National Locksmith* magazine.

You see, six years ago I started a mobile business in San Francisco, CA. When I finally got everything ready to roll and made my first service call, a hardship in my life, which was out of

my control, forced me to stop my business. I had to cancel everything and travel overseas. I lost everything in the process, my business, my equipment and my tools.

I recently came back to the states and my love and respect for the locksmith profession got me to restart my business once again.

Since I was overseas for five years I have lost my contacts with many within the industry. What made my comeback possible was that I kept all *The National Locksmith* magazines. Through the magazine I reacquired most of my

knowledge and contacts again. It was very valuable and helpful to me, however, since my start-up I have had my share of run-arounds from various distributors in the area with regards to product pricing. Everybody seems to be out there for the quick buck and some do not care if you make it or not.

I know there are a lot of things that are involved here to succeed; security know how, integrity and business smarts as well as be patient and wait your turn to climb the ladder step by step. However, I have found that some distributors will pull the ladder out from under you before you get a chance to climb the first rung.

It is as if certain people are trying to control who will succeed and who will fail. I do not believe that is the American way of doing business. The American way is that everybody gets their chance to prove themselves. That is what should move you up and forward. However, that is not what some distributors believe.

I would like to say that there is a lot of competition from hardware stores and when you try to compete with their prices and the prices of the distributors, there is a really big gap.

Recently, I read some article regarding that our trade is fading. For one, I do not believe that. There will always be locksmiths around. I think one of the reasons that may attribute to the stagnation in the locksmith industry is they are not on an even playing field as specifiers, architects or builders and given the chance to develop. One has to wonder who is responsible for this? Is it the distributors? Is it the manufacturer's? I think the rules of the game should be the same for all parties, but that's not how it is.

Most of the manufacturers I dealt with were very helpful and I would like to mention a few of them: Schlage, Adams-Rite, Kaba, and Baldwin to name a few. The information in the catalogs and tapes provided was very helpful to me and my business. I believe that is the way it should be.

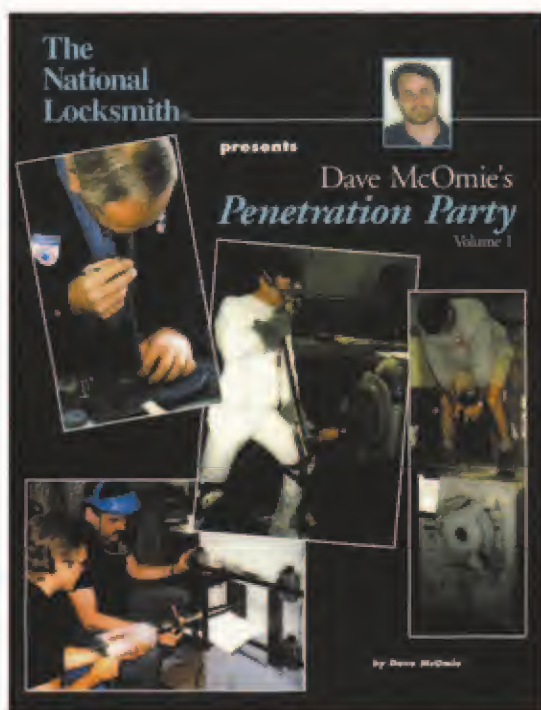
Thank you for your time and for listening to me. Again, I congratulate your magazine for an outstanding job.

K Tatarain  
California

## Who's In Control?

I was just sitting here in my motel room reading this months issue of *The National Locksmith* May 1999. I just

# Penetration Party



- Uncensored! • The Safes! • The Tools!  
• The Action! • The Perfect Openings!  
• The Bloopers and Blunders!  
• The Slick Tricks!

CLICK HERE TO LEARN MORE



#PP - 1



read the letter to the editor, "Insurance Company Control", by Bruce Smith. I can tell you how I would handle this little problem with insurance company's roadside service requests.

I'm trying to get into the locksmithing business, so I'm new at it and not the brightest bulb on the tree. I travel a lot with my present job, and stay in a lot of motels. When I stay, I always tell them at the front desk (just in case someone locks their keys in their car or lose them) that I'm a bonded locksmith and can open locked vehicles. Just the other day someone locked their keys in

their car and they called a locksmith and he was busy and couldn't get to it for a while.

The person locked out had a meeting in less than an hour and had to get there. I eventually got the job and when I arrived he said his insurance company would pay \$15.00 for lost keys or a lockout.

I said I charge \$35.00 to open the car plus tax. I asked if he would like to first call his insurance company and tell them he can't get anyone to open his car except me, and my fee is \$35.00 plus tax.

I told him there are two ways I open cars. There is the budget way, or there is the professional way. He asked me what the difference was and I told him the professional way is damage free and will cost him \$35.00 plus tax. The budget way is to use a small cutting torch and cut a hole in his roof. For that I only charge \$10.00.

He said you got to be kidding, and I said I'm not. I opened my trunk and there sat a cutting torch.

He chose the professional way, paid me cash, and was soon on his way.

*L. F. Howard  
Pennsylvania*

## Web Errors

I found a couple of errors in the "Locksmithing on the World Wide Web" article by Billy B. Edwards in the April issue and thought I would point them out.

It was a very informative article, and I learned a few things, but I have to point out two errors:

First the article states that: "There are free shareware programs available."

Shareware is not free! If you use it beyond the trial period specified, you must pay for it. If you want programs, which are free for unlimited use, you want freeware, not shareware.

The article then states that Internet addresses are case sensitive. This is not true as far as domains are concerned. Whether you use LOCKSMITH.ORG, Locksmith.org or locksmith.org, it's the same domain.

Case sensitivity is true only after the .com or .org, for example: (locksmith.org/shop.htm is not the same as locksmith.org/Shop.htm). 'www.' is not part of a domain.

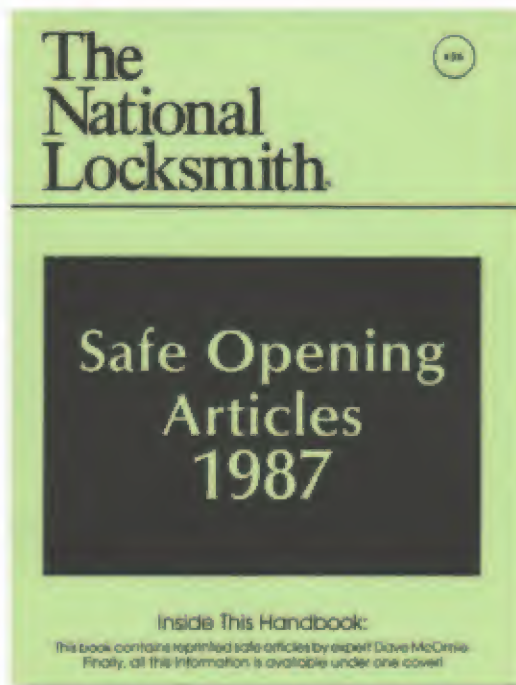
Domains are managed by Network Solutions; Inc. Internic.net automatically forwards to that company. The article was very informative, but you really should print a correction to these errors.

*Ralph Johnson  
E-mail*

**Writer's Reply:** Thanks for the response Ralph. I noted the same error on what was sent as 'free shareware' which would have denoted two different types of software. Oh well, you got me on that one. As for www. being part of a domain, I didn't say it was part of a domain name, I said it was part of an address.  
- Billy B. Edwards, Jr.

**RL**

# Safe Opening Articles 1987



Now under one cover—all the  
information safe opening articles by  
expert safeman, Dave McOmie.

[CLICK HERE TO LEARN MORE](#)

#SA - 1



# Security Café

**DROP IN FOR  
TOOLS, TECHNOLOGY  
& EQUIPMENT**

## Kenstan Brochure



Part of being successful in preventing thefts, is using care and common sense. Five simple steps towards

better security are outlined in Kenstan's newest brochure, available now free of charge.

Mentioned, as one of the most common causes of security problems is the misplaced key. Kenstan actually developed a whole family of locks called the KeyMatic family, designed to cope with this problem. When a key is lost or misplaced, a new lock does not always need to be ordered. Instead with the KeyMatic locks all that needs to be done is use the change key to adjust the core of the lock to a new position (there are eight). By doing this the lock opens with an entirely different key which is part of the original locking system.

## Jensen Tools Kits

The ever-popular JTK-17 and JTK-87 Field Service and Field Engineer Tool Kits are now available in the new Tough Tote 10" or 12" deep wheeled cases as well as the removable pallet Quick Clip Cordura case design. Over 100 tools are included with



these kits, and all are backed by Jensen's Lifetime Guarantee.

Tough Tote cases have been manufactured exclusively for Jensen by SKB, a long-standing partner of Jensen tool kit designs. These cases have been created to provide a lower cost alternative to the popular rotationally molded wheeled cased, yet with exceptional durability. Features include a vacuum formed, heavy weight, high density polyethylene shell with molded-in bumpers, heavy duty tongue and groove aluminum valance, spring loaded steel handle, patented key locking latches with a lifetime warranty, telescoping, friction controlled tote handle, and heavy duty wheels.

Another value-added feature is the horizontal design, eliminating the hassle of rotating the case in order to wheel it.

## Bob Murray Safe & Vault Co.

**BOB MURRAY'S SAFE BOOK**  
A Practical Handbook  
for the Professional Safe Technician



Bob Murray, CTS

A practical handbook for the professional safe technician geared to both the beginner and the seasoned safe professional, is packed with newly organized, detailed information on: drilling skills and strategies, dialing and setting combinations; borescopes and transferring; locks; boltworks and relockers;

servicing; hardplate; on-the-job do's and don'ts; and more. Complete with photos, schematics, glossary and index.

## Low Energy Door Operator



The ED600 low-energy operator from DORMA Architectural Hardware provides a simple, economical, practical approach to barrier-free accessibility. When opening assistance is not required, or when faced with a power loss, the device operates like a normal closer, therefore it can be installed on any labeled fire door. With its simple, basic design, the non-handed unit offers easy installation and reliable operation.

The closer-based operator is ADA and NFPA compliant and meets the requirements of ANSI A156.19. The microprocessor-controlled unit is highly adaptable to more sophisticated applications through plug-in interface options. The ED600 readily controls doors from 36"/100 lbs. to 48"/200 lbs. with an adjustable opening angle from 85° to 115°.

## Master Padlocks That Won't Rust



The exclusive Corrozex™ finish from Master Lock comes with a lifetime warranty against rust. The 1-1/2 inch laminated Corrozex

## Titan Tools Supply Video Viewing System



Titan Tool Supply Co. offers a new miniature color borescope video viewing system designed to turn any borescope into a video scope.

The system snaps directly over the eyepiece of a borescope optical tube allowing for easy viewing and all the advantages of video without restricting the user to a confining eyepiece. This eliminates the need for a viewer to alternate looking from the eyepiece to a remote video screen and permits several people to view the screen simultaneously. The video screen can also be rotated for either vertical or horizontal viewing.

The system weighs only 18 ounces and combines a color LCD 4" x 2 1/2" monitor with a 1/3 chip camera that can be attached to the Titan TSTVA-12 video adapter to provide full video scope capability. The TSTVA-12 video adapter features crosshairs on the vertical and horizontal axis to allow for better viewing, measuring and alignment.



padlock is combined with a chrome-plated shackle to prevent rust and corrosion, making it ideal for use outdoors.

The lock bodies feature layered construction, a pin-tumbler lock mechanism to resist picking, and a dual-locking system, which independently locks each shackle leg to prevent pulling, prying and hammering.

The Corrozex finish comes in silver or black. It is also featured on a warded version of the padlock.

### Lockmasters® X-07 Tube and Spindle Cutter



Tired of using a hand-held saw to cut the tubes or dial spindles of the Mas-Hamilton X-07 lock? If so, try the new Tube and spindle Cutter from Lockmasters®. It will save you time and aggravation. The cutter is used like a chop saw and comes with a vise to hold the tube or spindle while cutting. You can cut the tube or spindle to any length needed with great ease, and after making the cut, very little deburring is required.

The Tube and Spindle Cutter can also be used to cut brass and Zamac dial spindles to the required length. The cutter will cut spindle lengths from 2 inches and up. It conveniently operates on 110 volts. For those of you installing the Mas-Hamilton X-07, this cutter is a "must have" for your toolbox!

### Abus Steel-O-Flex

The Abus Steel-O-Flex is an innovative lightweight (5.1 lbs.) option to maximum security for motorcycles. It's ingenious design combines strength, resistance to Freon® attack, and easy coiling down to a 12-inch diameter.

The Abus Steel-O-Flex features a 22-mm diameter,



freely rotating, hardened steel alloy link, which protects an 8 mm twisted aircraft quality steel cable. The hardened steel links are specially sized so bolt cutter jaws cannot grasp and sever the link. The Steel-O-Flex includes the world famous Abus Plus 6-Disc anti-pick cylinder with 30,000 guaranteed key options.

This flexible and easy to use cable/lock offers excellent resistance to brutal and intelligent attack from saws, bolt cutters, drills, Freon® spray, cylinder picking, and pry bars.

All keys are registered and codes are kept in a secured file for factory guaranteed key control.

### Sentry Unveils Fire-Safe Plus



Initially available in the sizes of the company's two most popular storage styles, the new Sentry Fire-Safe Plus products are engineered and tested to provide a full hour of fire protection for their contents. In addition, both models offer important security features, including a high quality pick-resistant lock and bolt-down capability.

The model 1800 Sentry Fire-Safe Plus security chest features 349 cubic inches of storage capacity in a conveniently portable sized unit complete with carrying handle. The model 1870 Sentry Fire-Safe Plus security file offers a storage capacity of 1058 cubic inches and comes with six hanging file folders for added convenience and easy organization of its contents.

### RQ Associates Mongoose



The Mongoose flexible fiber optic borescope from RQ Associates, incorporates a 180° articulation and a 10,000 pixel imaging guide for a clear sharp image without the "honey comb" effect, allowing easy access and inspection of the most difficult to reach areas. The flexible shaft fits in a 5/6-inch hole.

The video system can be used for viewing by training groups, or to produce photographs of the actual damaged or broken part.

The Mongoose Kit includes the Mongoose, 150Watt Halogen light source, 6' fiber optic light guide, and durable storage case.

### Abloy Protected Shackle Padlocks

By extending the case hardened steel body to



surround the shackle, Abloy has made these padlocks virtually impervious to cutting and prying tools.

Both maximum-security padlocks feature chrome plated case hardened steel body and boron steel shackle.

### Olympus Lock adds Deadlocking Latch

Olympus Lock has added two new patented products to its line of innovative pin tumbler cabinet locks. The new Olympus 850SC and 950IC series deadlocking latch cabinet drawer locks combine increased security with the convenience of a latch lock. The new, patented, deadlock feature and matching strike help prevent shimming and vandalism and are ideal for cash drawer applications. The latch provides the convenience of shutting the drawer without the use of a key.



The Olympus 850SC ships standard with Schlage C keyway and includes our patented setscrew technology for easy rekeying. Lori conversion plugs may be used to key into other systems and the lock will accept other manufacturer's cylinders. The Olympus 950IC accepts Arrow, Best, Falcon, KSP or equivalent interchangeable cores and is sold less core. The Olympus 850SC and 950IC locks will retrofit any 1-1/8" diameter cabinet lock and use the same footprint as Olympus Lock's #700SC, #800SC, or #721 cabinet locks. **TRL**



**A**fter having displayed the Marray company wares at trade shows across the country for the past several years, I have come to the realization that a great number of locksmiths are intimidated by the concept of electrified door hardware. People come by my booth and say things like "What in the world?" and "What are those wires for?". I explain that we (Marray Enterprises, Inc.) are an after market modifier/manufacture of locks and hinges, and that we take existing standard hardware and machine it to accept solenoids so that it can be used in an access control application. The usual responses are "Neat" or "Whoa Nelly", and of course, "Say What?"

These comments are usually followed by a quick dip into the candy dish and a hasty retreat. This isn't to say that some people who have discovered this niche don't come by. Those that have installed this type of hardware in the past usually are impressed with what we have to offer. This article, though useful to everyone, is mainly for the "Whoa Nelly" crowd out there.

A little later we'll talk about how to successfully install a single lockset and power transfer hinge. First, you "Whoa Nelly" folks might want to know exactly "why" anyone would want an electrified lock.

# THE BIG EASY

Have you ever seen a door with a card reader on it? Do your commercial customers have secure rooms (labs, manufacturing areas, inventory rooms) that they want to control access into with an audit trail (to know who went in and when)? Do you know a receptionist at a company who would like to keep the door locked, but doesn't want to get up from the desk to let people in all the time? If your answer was yes to any of these scenarios, then you're ready to put some access hardware in yourself.

There are four very basic ways to secure a door and release it electrically.

1. Magnetic locks (Mag locks, Shear locks)
2. Electric latch release (electrified strikes)
3. Stand-alone, battery powered locks like OSI's OMNI Lock series.
4. Electrified locks (including panic devices and trim).

Which hardware you use is entirely dependent on your application. I have installed all of these at various times. Since

Marray is a manufacturer of electrified locks and hardware, I am not really going to cover much on the other options (**1, 2 or 3**). I'm not here to say our way is always better either. You should always specify the correct hardware for each and every job, based on which hardware best suits your application.

It is my personal belief (as a lock shop owner) that electrified locks and hinges are the best solution available for most access control options. That is why I got into this business of modifying. I was putting in around 300 locks a year and wanted better control over quality and delivery. Here is why I believe that locks are better, for most installations, than strikes, mags, and code locks:

**A.** If you install a strike in the frame, you have to replace the lock in most cases with a storeroom function lock that can't be left unlocked by users (you may as well put in an electrified one).

**B.** Strikes stay in the frame. Locks can be moved to a new door with the hinge, the holes can be filled with a passage set and standard hinge (thereby saving your customer money).

**C.** Locks don't have preload problems with air pressure (the latch is fixed and rigid). They are more tamper resistant (since people don't realize that the lock is electrified).

**D.** The job is cleaner for the customer. They do not have cut frames that they may have to replace when they move out (in their lease stipulations).

**E.** Marray locks and hinges (using the DOR-COR™ drill fixture) can be installed very quickly (between 5-15 minutes).

by  
**Ray Zehrung**





1. The chassis of a Schlage D series, Grade 1 lever set.

**F.** Mag locks are fail safe and require battery back up to stay locked in power outages (and may not meet all life safety codes). Marray locks can be ordered fail safe, but most are ordered by people fail secure. They remain locked in a power outage.

**G.** Code locks are great for some applications, however, they may cost more, and are not usually used in medium to large systems where PC control by the user is desired.

Now that we have gone over why I believe electric locks and hinges are best for most installations, I would like to give you a little background on exactly what we do and how we do it.

**Photograph 1** shows the chassis (trim removed) of a Schlage D series, Grade 1 lever set. We've taken this lock body apart and given you an exploded view of the internal workings.

**Photograph 2** is another exploded view of the same lock body with electrified modifications. The solenoid unit sits in the inside spindle housing and a few other machine operations are completed to make the solenoid work right.

We actually buy hundreds of locks at once, which allows us to machine the pieces using the latest and most high tech machinery available. This allows us to not only cut down on turn around time, it also cuts prices and improves the reliability through very exact processing. The tolerances are



2. Exploded view of the same Schlage lock body with electrified modifications.

MIL-SPEC, meaning we meet or exceed the requirements for hardware submitted to the military for our armed forces.

**Photograph 3** shows a machine called a flatbed CNC machine. We load 15 parts on at a time and process in 2 minutes a completed modified lock.

**Photograph 4** shows the hinges being drilled by computer control (CNC) on a vertical knee mill. **Photograph 5** is a close up of the hole in the power transfer hinge. The process is so unique, and the cost savings are so great, that we have three patents on the hinges. Almost all of the parts are machined in this way. It gives us uniformity and integrity in the products and, assures customer of quality hardware each and every time.

**Photograph 6** shows the hot glue (formulated for us by 3M for this application) being applied to secure the wire. We use hot glue so that we can always remove the wires and restrung them if they get broken. There is a lifetime warranty on the wire.

My goal here is not to get too technical, but to get technical enough that you understand how these things work down to the most basic level. This is so you feel comfortable not only selling and installing these products, but servicing them as well.



3. A flatbed CNC machine.



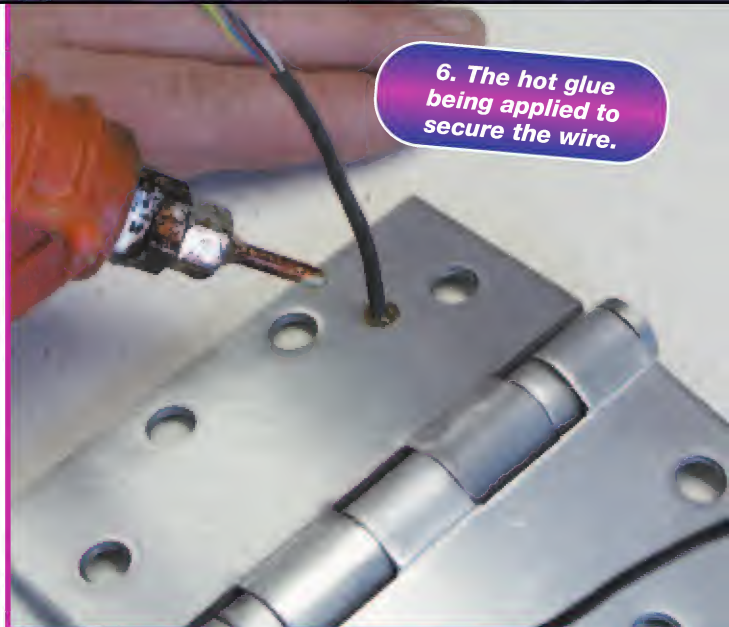
4. The hinges being drilled by computer control (CNC) on a vertical knee mill.



5. A close up of the hole in the power transfer hinge.



6. The hot glue being applied to secure the wire.



Locksmiths in the know have discovered the Holy Grail of locksmithing. It isn't cars, it isn't high-end residences, it isn't safes (you can make a good living providing these services, just not a great living). It's electrified door hardware. There isn't anything, in my opinion, that a lockshop can install faster, with as little effort, and make more money on, than this type of hardware.

Let's get to the meat of the matter. If you can tell the difference between a Schlage, Yale, Corbin etc., and you can tell the difference between a mortise lock and a cylindrical lock, then you are already ahead of the access integrators and alarm guys that are putting this hardware in now and getting the big money. You see, as a locksmith, you already have a leg up on these jobs, because you know your locks. That's really all you need to know. The rest, really is... "The Big Easy".

The main issue that seems to stop the locksmiths from doing this type of work is drilling the door for the wires to the lock. Marray has a drill fixture for just under \$450.00 that has been tested by a nationally recognized door listing agency.

7. Placing the DOR-COR™ drill fixture on the door.



### Lock Installation

To begin the installation process, I am placing the drill fixture on the door. (*See photograph 7.*) With the DOR-COR™ drill fixture, anyone, and I mean anyone can drill a door like a pro in under three minutes. If you don't want to invest in the DOR-COR™, all of the hinges come with paper drill templates. You just take off the standard hinge, remove the lock hardware, place the fixture on the door, set the drill angle, and banga bonga boom...you're done.

You will need to drill out both ends of your long hole just a little as in *photograph 8*. This is so that your wire bundle, called a service loop, will have an easy place to rest. You then pull your modified lockset out of the box and run some 18-2 wire.

*Photograph 9* shows the quickest way to connect the wires. These little puppies are called telephone beans. You can use wire nuts if you like, but I have had problems with them slipping out and needing to be reworked, so if you want to walk away from the job quicker, in my opinion beans are the only way to go.

8. Drill out both ends of your long hole just a little.







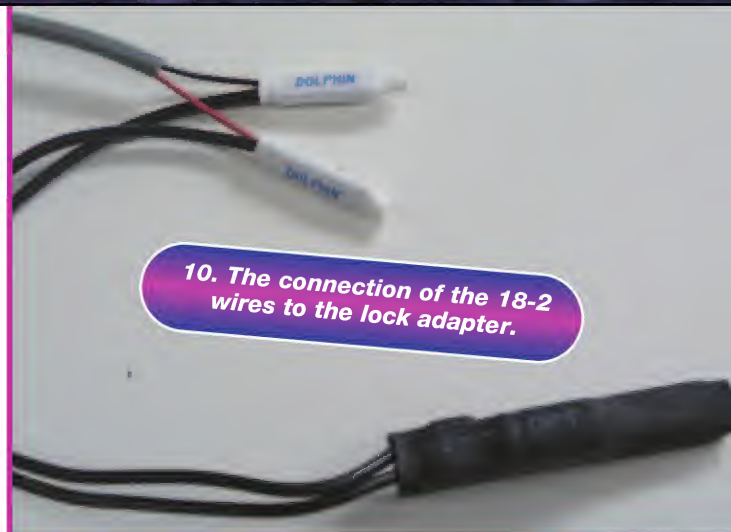
9. These little puppies are called telephone beans.

*Photograph 10* shows the connection of the 18-2 wires to the lock adapter before you even string the door. This way you don't have to hold the lock up and wire it hanging from the door, you can just plug it in. You always do the lock first, since it is at the end of the line, so to speak.

*Photograph 11* shows the completed wiring, waiting to be shoved (gently) into the service loop hole. Make sure to wrap the wires around the lock body so that they don't get pinched. If they are caught and pinched between the lock and the door, you are going to have a short (the power going to ground) before too long, and you will need to provide service to the lock. Going out to fix something on warranty is not the best way to spend your time.

Finish putting the lock on the door as you would a standard lever set. Put on the nut and inside rose, pop on the handle and you are done with the lock portion.

*Photograph 12* shows the completed lock wire running through the door and coming out to the hinge. Notice the screw in the lower corner of the hinge. This keeps your hands free to do the connection.



10. The connection of the 18-2 wires to the lock adapter.

Murray makes a two wire hinge (the only standard two wire hinge on the market) so that the confusion of four wires is taken out of the equation. This is also a good time to test your lock with a battery pack. Purchase two 12-Volt batteries and have them wired in series (so that you can test 12 or 24-Volt circuits). Touch the battery to the leads and listen for the lock solenoid to click. Connect red to red, and black to black. It's easy.

Drill your already marked hole indicated by the template into the jamb as in *photograph 13*. This bit is a Cobalt Unibit. It's the best investment in drill bits you can make. Next run your supply-side wires into the jamb, as in *photograph 14*. If



12. The completed lock wire running through the door and coming out to the hinge.



11. The completed wiring, waiting to be shoved into the service loop hole.





13. Drill your already marked hole, indicated by the template, into the jamb.



14. Run your supply-side wires into the jamb.

you are putting in a single point access system like a Securitron DK-26+, you can then feed your wires up to the controller. If you are doing this job for your customer, either the access integrator or the end user, you can usually leave your wires in the jamb, or above the ceiling tiles, clean up your mess and you're done.

Now the big question is, how do you get a customer to give you this type of work?

You get it by offering it!

So, how long does it take to do this job? How long did it take you to read this article? There's your answer. The typical installation time for an electrified lever set is 15 minutes. How much can you make on a job like this? You can buy a Schlage modified lever set with a suggested list price of \$404.00 directly from us at the factory for \$181.80. A Cal-Royal clutch lock with a suggested list price of \$322.00 is available for under \$145.00. You can buy most of the electrified hinges with a suggested list of \$160.00 for \$64.80.

For this job you would have around \$250.00, or less, invested in materials.

This means that you, being the great vendor you are, will of course give your customer 20% off of the list price on the lock (\$404.00) and hinge (\$160.00) and make them very happy. You will therefore sell them the lock for \$323.20 and the hinge for \$128.00 (about what you would pay for other manufacturer's hinges).

You are going to quote 4-hours labor on the job just in case you get the door from Hades. Our rate is \$60.00 per hour. Since I don't know your shop rate, I will tell you what my shop (I am part owner in Armored Locksmith, Inc. which is a great way to test our products in the field) would make on the above job at a \$60.00 labor rate.

Profit on the lock and hinge is \$204.60. Labor and a service call is \$275.00. Add the two together and you get \$479.60. Can you think of any other job you can do as a locksmith where you can make almost five hundred dollars in fifteen minutes? Not me.

Sure you could sell a safe and (maybe) make some money, but your customer isn't likely to buy 10 safes. I have been on jobs where we installed 60 electrified locks and hinges, which took us three days to do. You add it up. Now that should make you say "Whoa Nelly".

The reason we make this hardware is because in 1995, my lock shop installed 300+ electrified locks and hinges. We wanted better control over delivery and quality so we started making our own. If you do use someone else's hardware instead of ours, shame! Just kidding, but keep these few things in mind:

1. All of the product you install should be UL listed. This is a liability issue.
2. Make sure you buy hardware with at least a year warranty. We guarantee our hinge wires for life.
3. Check with the Fire Marshal about drilling the door. If you use the DOR-COR™ drill fixture, you can have it re-labeled.
4. If you are doing the job for an integrator, find out the voltage you need. All Marray locks can take AC and DC.
5. Call your banker and tell him to install a larger vault for your cash.

If you like the concept of making good money, and you think you would like to give this type of installation a try, give us a call. If you already do this type of work and are looking for quality products, at wholesale factory direct prices, give us a call. We provide technical assistance to customers via an 800 number during standard business hours PST. You can also call just to chat about this article if you like. I would be more than happy to provide you with any information I can.

*Marray Enterprises, Inc. can be reached at 800-500-1449. We'll send a complete catalog listing all Marray products to you with a price list at your request. You can also request a catalog at our web site, <http://www.marray.com>. Reply #290*

Now... wasn't that easy? **TNL**



# THE 1998 CHRYSLER SEBRING CONVERTIBLE PART 2



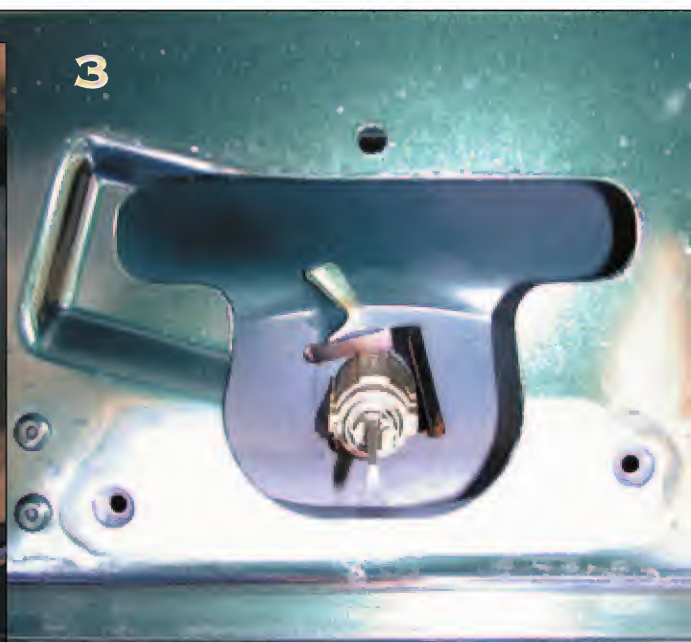
BY MICHAEL HYDE

This month we conclude our coverage of the 1998 Sebring convertible covering the trunk, glove box and center console locks, as well as how to program the keys.

## TRUNK LOCK



The trunk lock is not covered up by taillights or exterior trim.



The trunk lock cylinder is only held in a horseshoe clip.



A view of the latch assembly.  
Remove the two 10mm bolts.



The trunk lock removed from the car.



There is a large drain hole on the bottom of the lock, which would be good for wafer reading.



Before you disassemble the trunk lock make a mental note of how the tailpiece and spring fit on the back of the plug.



## Ask Dave

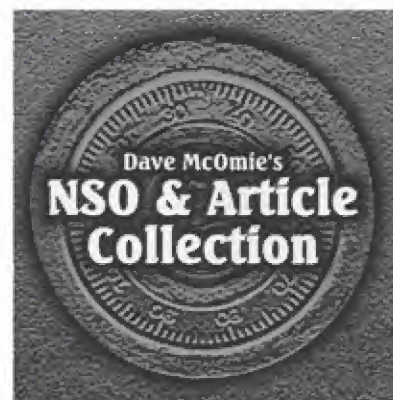


You asked.  
He answered.  
This is safe  
and vault  
Q&A with  
an attitude.

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#AD - 1

## Dave McOmie NSO & Article Collection on CD



This CD contains every NSO newsletter and McOmie File Dave has ever published.

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#DMCD - 2

August 1999 • 29

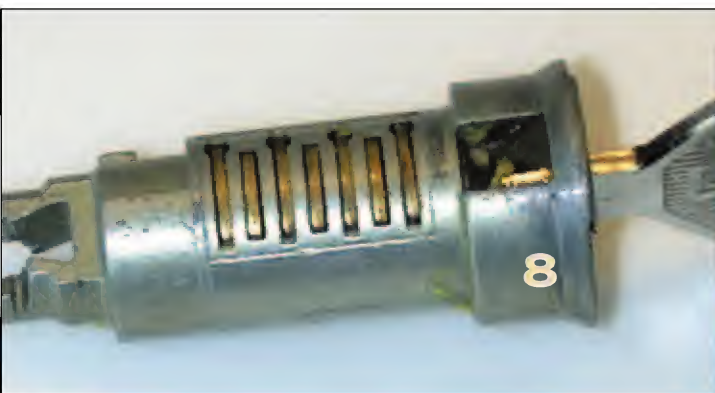




The face cap must be removed. The replacement face cap part number is Strattec #321848 (black). The dust shutter assembly is of a modular design with two springs.



The glove box lock is a modular unit where the lock cylinder and the latch assembly are combined together.



The trunk lock cylinder plug contains seven tumblers in positions 2 through 8.



Remove the four screws on the backside of the lock to remove the assembly.



A view of the trunk lock cylinder that was disassembled.



The assembly removed from the car.





The glove box lock cylinder plug contains four tumblers in positions 5 through 8.



You can use a working key or pick the lock to the LOCK position and then depress the stop retainer to remove the plug. The access hole is on the right side of the plug near the front.

## Safe Opening Volumes 1-5



These are the classic safe books you will need to open most any safe easily and professionally.

- Volume 1 - Modern Safes
- Volume 2 - Modern Safes
- Volume 3 - Antique Safes
- Volume 4 - Antique Safes
- Volume 5 - Very Recent Safes

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#SO - 1, SO - 2, SO - 3, SO - 4, SO - 5



## CENTER CONSOLE LOCK

15

This console lock has to be one of the easiest ever to work on.



18

There is a "C" clip on the back of the unit that you must remove to pull the plug. The cylinder is spring loaded into the lock housing, take note of that when you take it apart.



19

There is small access hole for the stop retainer tumbler. Pick the lock to the LOCK position or use the key if you have one and then depress the retainer tumbler.



16

Remove the single Phillips head screw on the top of the console.

The console lock cylinder plug contains four tumblers in positions 5 through 8.



17

With the screw removed slide out the lock.



20



## INSTRUCTIONS FOR PROGRAMMING TRANSPONDER KEYS ON TRANSPONDER EQUIPPED MODELS WHEN NO KEYS OR ONLY 1 KEY IS AVAILABLE

A tech device called the "DART" is needed for programming transponder keys when no keys are available. The DART unit is available from National Auto Lock Service @ 650-757-0700.

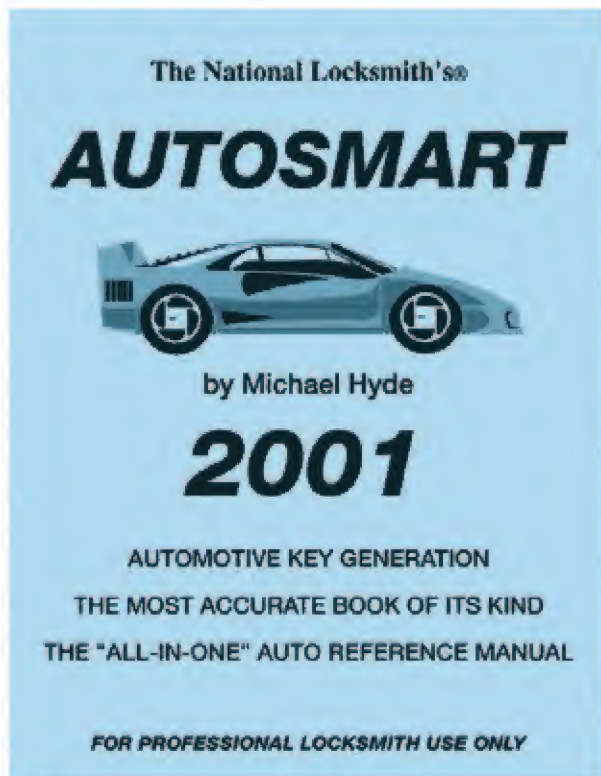


1. Before you begin make sure car's battery is at least 12volts. Don't guess, use a volt meter on the battery terminals.  
2. You must have at least one new Chrysler transponder key with the correct cuts already on it. Do not try the new Chrysler transponder key in the ignition until the DART unit asks for it.

Use a mechanical key to test your cuts.  
3. You must have the 4-digit PIN code for this vehicle.



This end of the connector cable goes into the car's computer diagnostic hook-up. This connector is standard on most vehicles in the United States.



# AutoSmart

## A MUST for every locksmith!



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The other end of the connector cable plugs into the DART unit. As with any electrical connector never force it into the receiving end.



The connector cable hooked up to the car's computer.



The car's computer connector is under the dash on the drivers side of the car. The connector is usually easy to see and most of the time is under the steering column or to the left or right of the steering column.

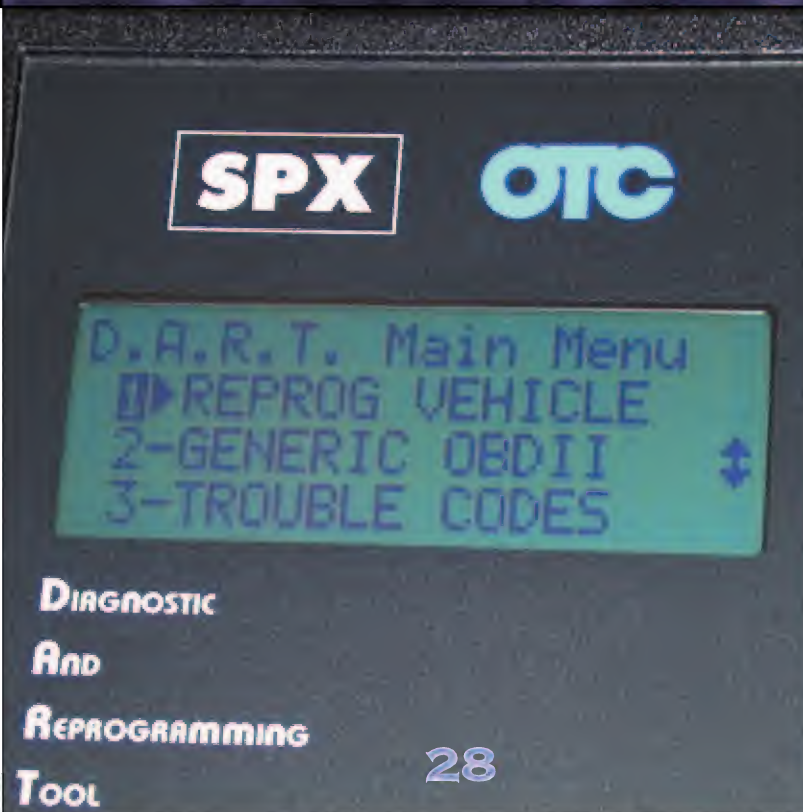


For this example we are using a 1999 Dodge Intrepid. The connector is right under the steering column, as shown in the photo.

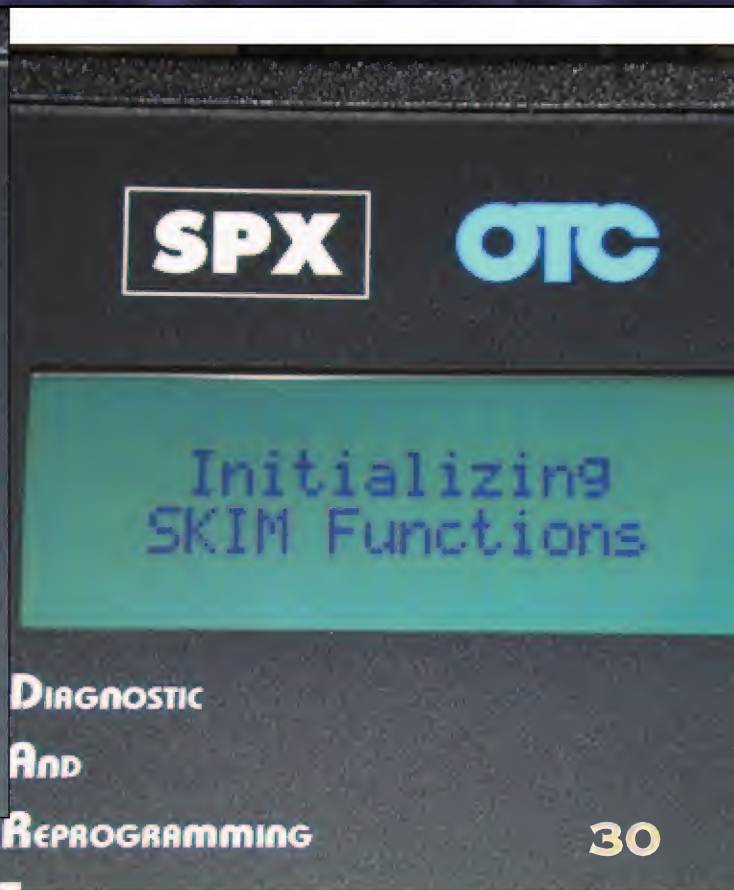


Once you have plugged the DART unit into the car's computer the unit should power up and this screen should appear.

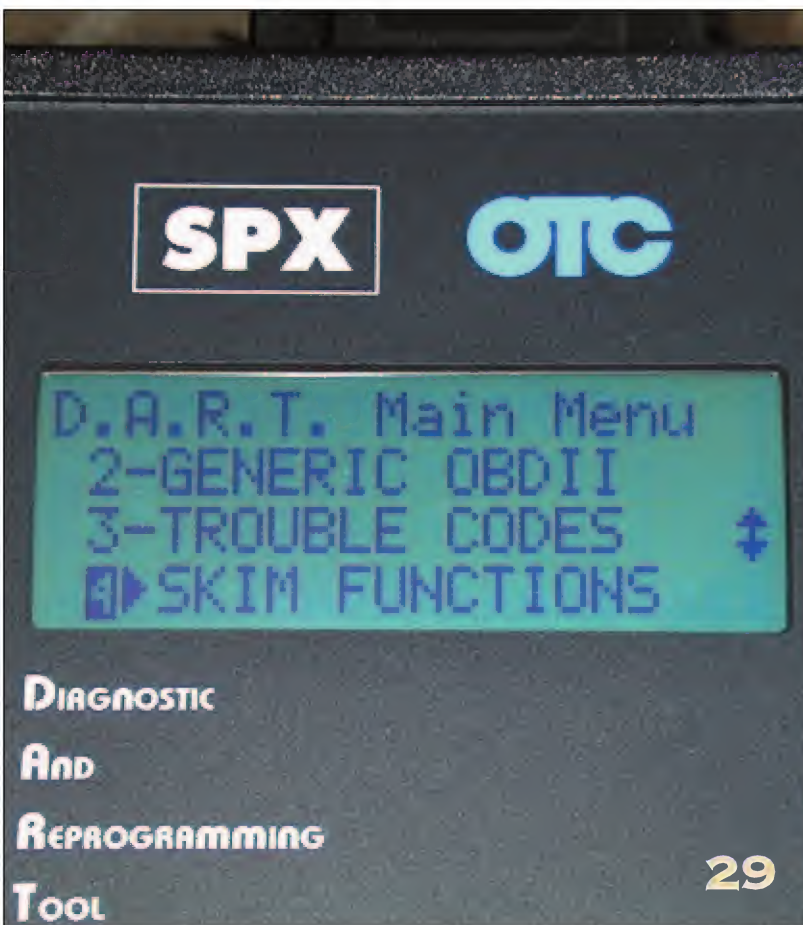




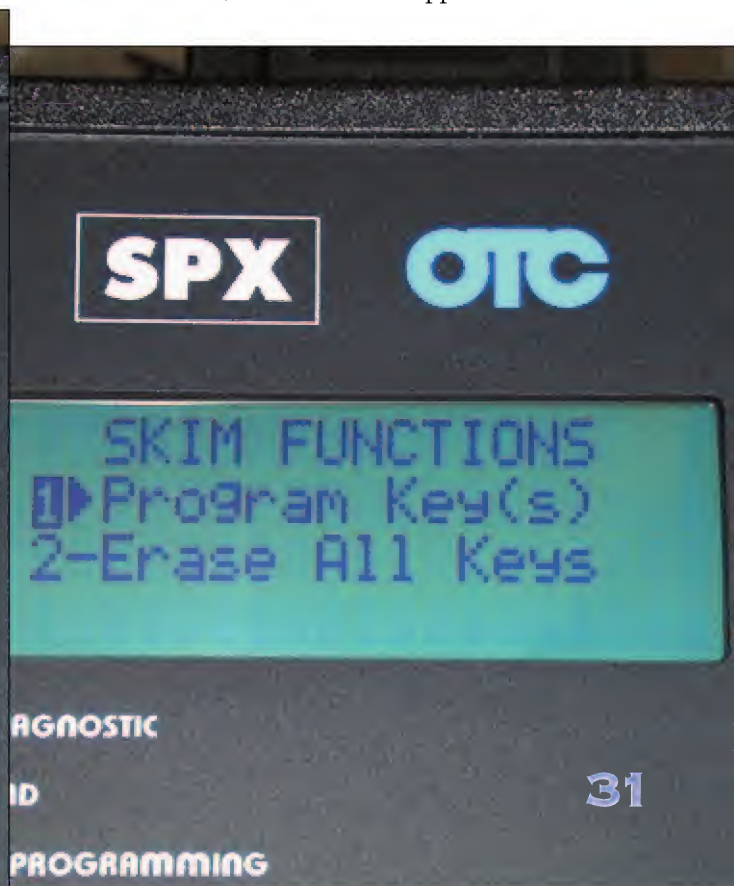
This next screen which is the main menu should automatically appear after the "Modem Check" screen runs its cycle.



While the car's computer tries to communicate with the SKIM module, this screen will appear.

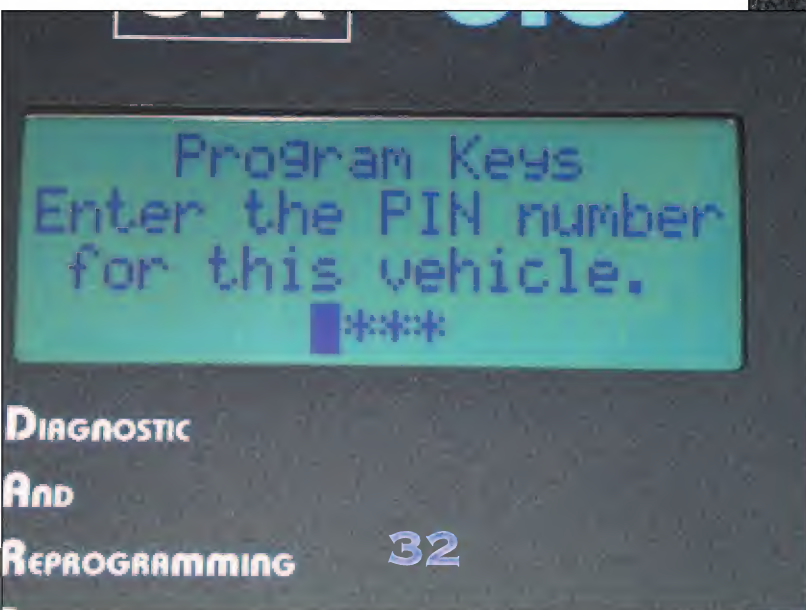


Use the down arrow to select number 4 for Skim Functions, press the Enter button.



To program in a new transponder key you can just add a key or erase all keys.

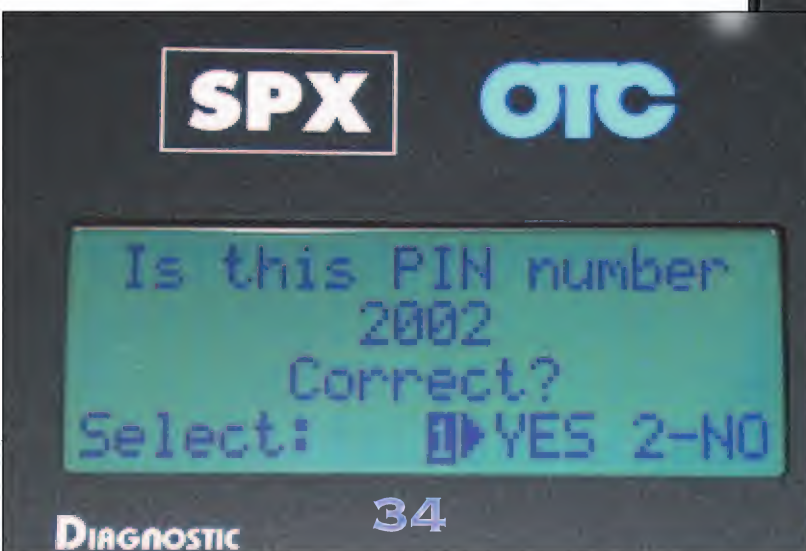




The DART unit requires you enter this car's PIN.

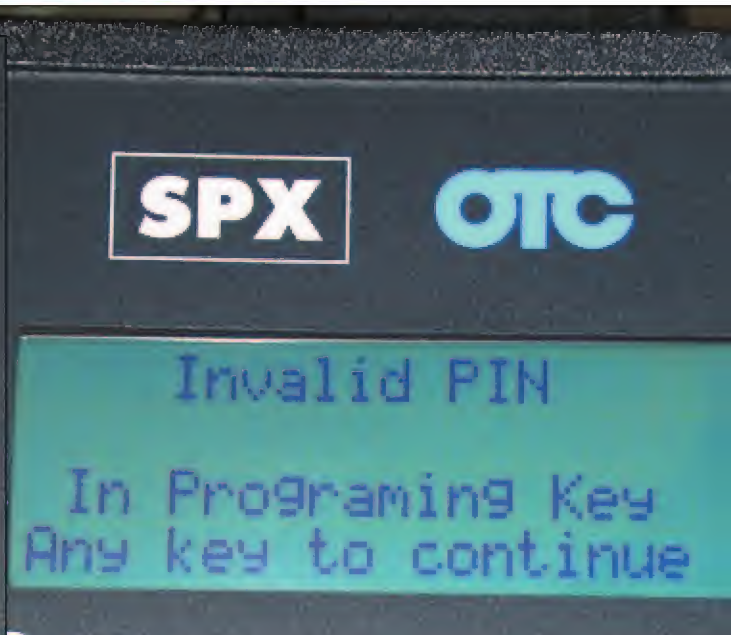


Enter the PIN and press Enter.



The DART unit will now verify that you entered the correct number before it checks it with the number in the car's computer.

38 • The National Locksmith



DIAGNOSTIC

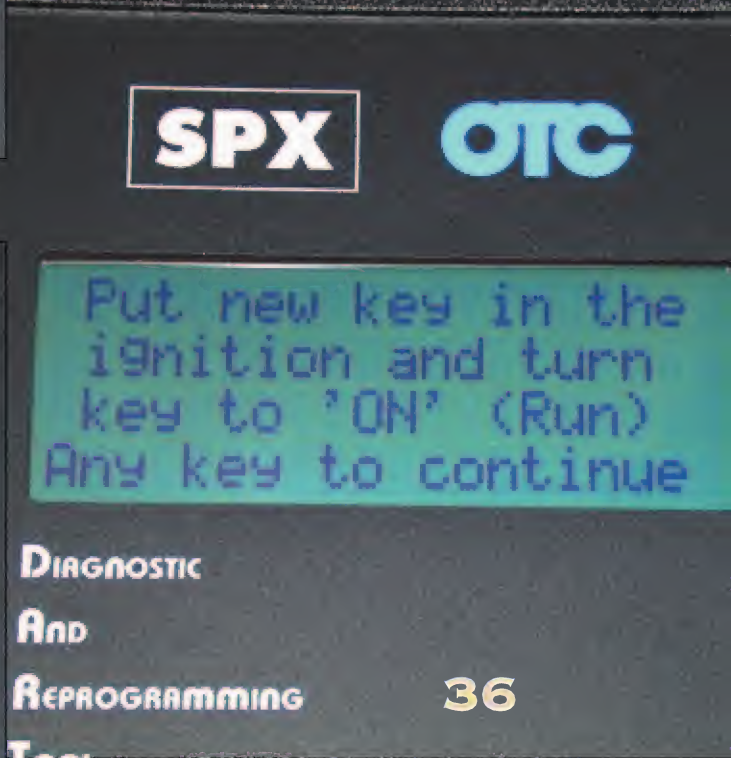
And

REPROGRAMMING

35

TOOL

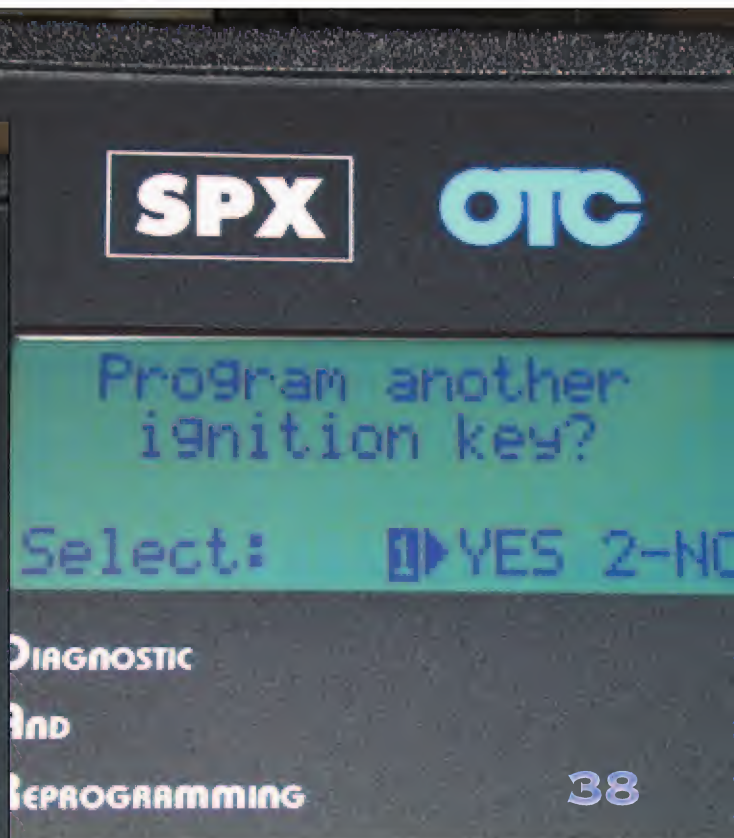
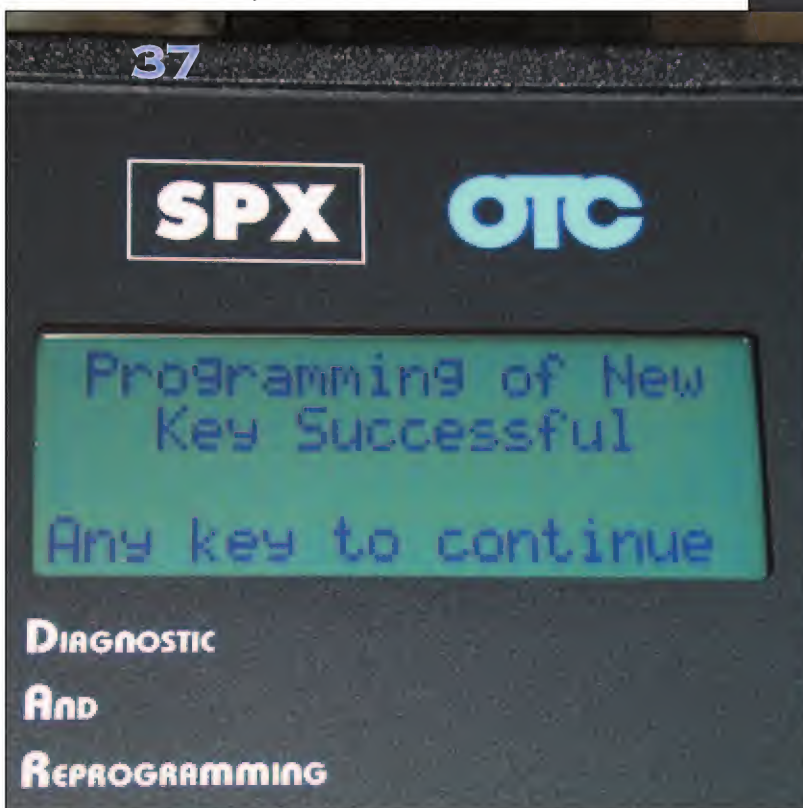
If the pin was invalid you would get this error screen. If you enter the PIN wrong again the car's computer will shut down for 1 hour.



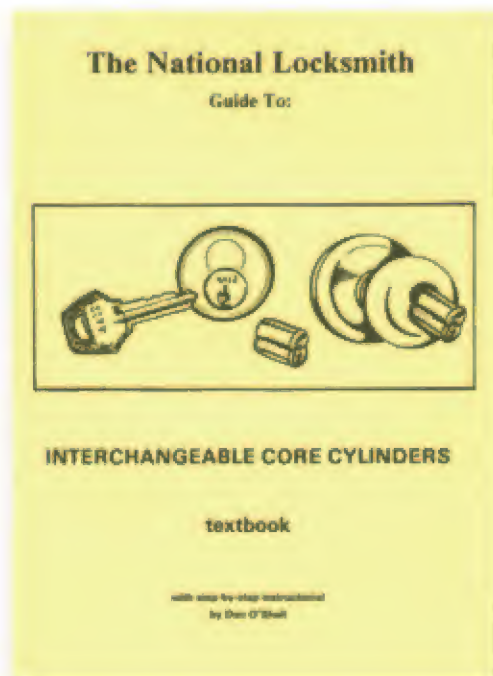
If you correctly entered the PIN, the DART unit will prompt you to put in the new Chrysler transponder key and turn it to the RUN position.



The DART unit confirms that everything went fine and the new key will work.



You will get another opportunity to program in more keys. That's all there is, you're all done.



## Interchangeable Core Cylinders

Covers all this...

- Best/Falcon/Arrow/Eagle/(A2)
- Best A3
- Best A4
- Corbin X Removable Core
- Corbin Z Removable Core
- Russwin Removable Core
- Emhart System 70 Removable Core
- Sargent Removable Core
- Schlage, Yale, Lockwood
- Medeco Removable Core

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#ICB - 1

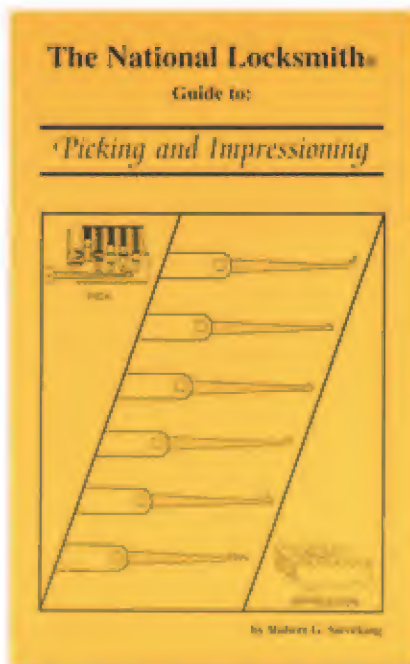
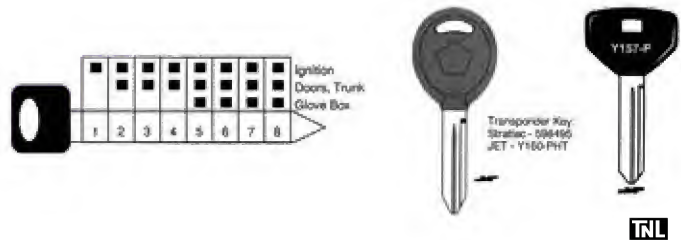


## INSTRUCTIONS FOR PROGRAMMING ADDITIONAL KEYS

1. You must have 2 already programmed Sentry Keys.
  2. Cut the new key(s) to the correct code or duplicate.
  3. Insert one of the 2 valid Sentry Keys into the ignition lock and turn to the RUN position.
  4. After the ignition has been in the RUN position for approximately 5 seconds, but not more than 15 seconds, turn the key to the off position.
  5. Remove the key and insert the second valid key and turn to the RUN position within 15 seconds.
  6. Approximately 10 seconds after the second key is turned to the RUN position, the Theft Alarm Light will start to flash, and a single chime tone will sound to indicate the system is in the "Customer Programming" mode.
  7. Within 60 seconds of entering the "Customer Programming" mode, turn the ignition switch to the off position, remove the key.
  8. Insert the new key (un-programmed) and turn the ignition lock to the RUN position.
  9. Approximately 10 seconds later, a single audible chime tone will sound and the Theft Alarm Light will stop, wait 5 seconds and then turn off the ignition.
  10. The system will immediately return to normal operation following the programming of the new key.
  11. To program an additional key into the system, you go through this process all over again.
- If you don't follow the above procedure precisely, you will have to start over. The above procedure will not work if 8 keys have already been programmed in.

### SPACE AND DEPTHS:

A CODE SERIES: M 001-M2618 1998 CHRYSLER										
Bow		STANDARD SPACING						Tip	Cut to Cut: .092	DEPTHS
1	2	3	4	5	6	7	8			
.941	.849	.757	.665	.573	.481	.389	.297			
Bow		FRAMON SPACING						Tip		
1	2	3	4	5	6	7	8			
.310	.402	.494	.586	.678	.770	.862	.954			
Key Blanks:		ILCO: Y157, Y159				SILCA: CY22, CY24				
Reed Code:		N/A				HPC 1200 CM		CX102		
Curtis Clipper:		Cam CHRY-5		Carriage CHRY-5A		ITL MFG:		69		
Pak-A-Punch		PAK-C5				M.A.C.S.:		2		
NOTES: FRAMON—Lay tip stop clip flat against left side of vise, then tip stop key against clip. Set first cut at .310										



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#PI



# LORI 4500 Series Deadbolts



by  
**Sal Dulcamaro,**  
**CML**

**L**ORI makes a rather unique deadbolt. It stands out for a couple of different reasons. First of all, it assembles and disassembles different than most. Secondly, it is unusually versatile because it makes use of mortise cylinders. It allows a LORI deadbolt to effectively become any brand deadbolt you want. That capability becomes important when you have the need to install a deadbolt that needs to be keyed to a commercial keyway where a compatible deadbolt (of the same brand) is not manufactured.

## Lock Construction

The heart of the LORI deadbolt lock is the cylinder housing (left) and the

bolt housing (right) shown in *photograph 1*. Those two parts, along with the mortise cylinders (for a double cylinder version of the lock) make up a rather solid lock. *Photograph 2* shows an angled view of the cylinder housing. On the side are two set screws, with one containing the end of the included Allen wrench designed for tightening the set screws. Between the two set screws is the slot where the bolt housing is inserted. If you look into the circular opening of the face end, you will see the threads that allow a mortise cylinder to be screwed into the housing.

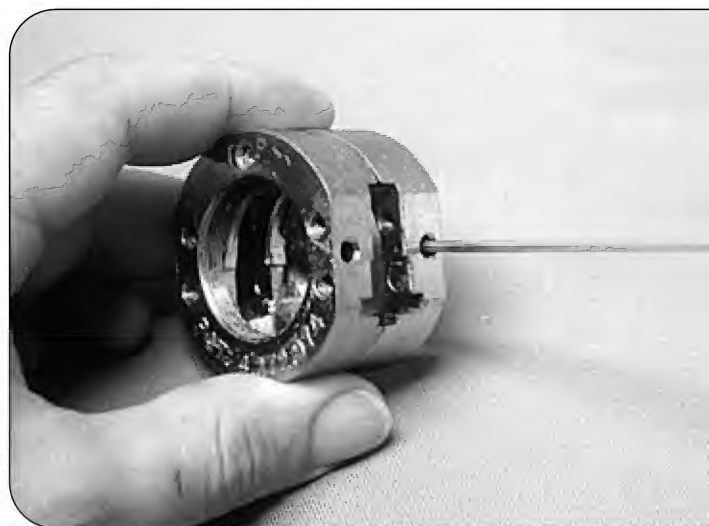
You may have noticed that the Allen wrench is fairly long. That is because it must be long enough to go through the bolt housing, along side the bolt, to ultimately reach the set screw in the cylinder housing. *Photograph 3* shows an end view of the bolt housing. You can see a slight gap on each side of the bolt. If you think of the circular opening

surrounding the bolt as a clock face, you should see a small hole at about 3 o'clock. That is the opening that gives the Allen wrench access to one of the two set screws. The Allen wrench is in the hole at 9 o'clock.

The bolt housing has been partially inserted into the cylinder housing in *photograph 4*. This side view shows how the long Allen wrench fits along side the bolt and is in line with the set screw in the cylinder housing. After the bolt housing is fully inserted into the cylinder housing, the two parts can be held together with screws. *Photograph 5* shows a view from the opposite side of the cylinder housing. One of two cylinder housing screws has been inserted, and the screw on the right is about to be inserted. The screws go through a smooth opening on this side of the cylinder housing, through holes in the bolt housing, and into threaded holes on the opposite side of the cylinder housing.



**1. The heart of the LORI deadbolt lock is the cylinder housing (left) and the bolt housing (right).**

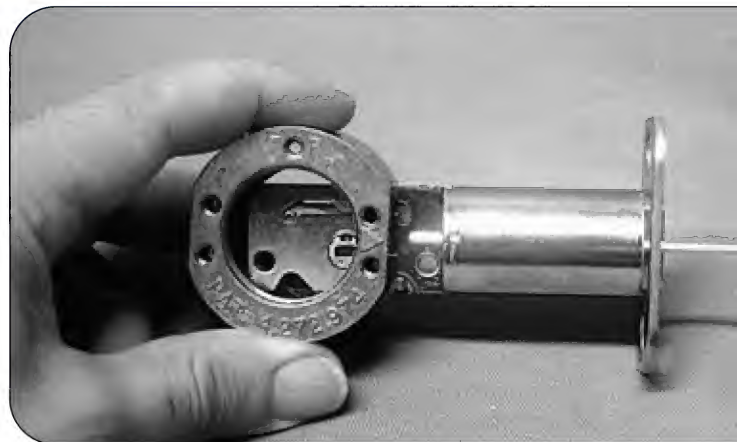


**2. On the side are two set screws, with one containing the end of the included Allen wrench.**





**3. End view of the bolt housing.**



**4. The bolt housing has been partially inserted.**



**5. One of two cylinder housing screws has been inserted.**



**6. The relationship of the cam and pin**

When the screws are tightened, the cylinder housing and bolt housing are locked together as a single unit.

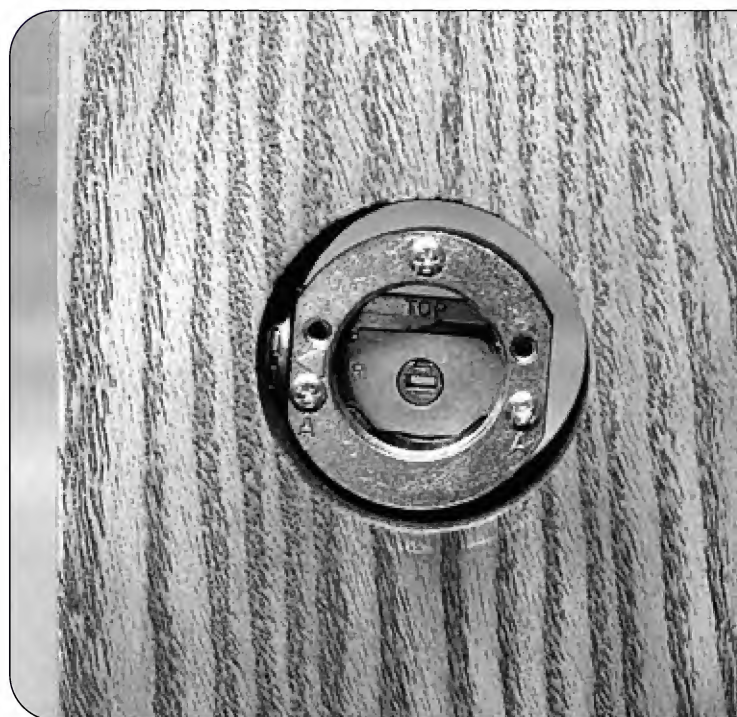
**W**hile a 15/16 inch or one inch length mortise cylinder is designed for use with the LORI deadbolt, longer cylinders can be used if appropriate spacers are also used. The bolt is actuated by an Adams Rite style cam from the mortise cylinder interacting with a pin on the bolt housing. The relationship of the cam and pin can be seen in *photograph 6*.

### Lock Installation

To install a LORI deadbolt, you will need to drill a 2-1/8 inch diameter cross bore hole, and a one inch edge bore hole. There are bolt housings available for either 2-3/8 inch or 2-3/4 inch backsets. You will typically use a 2-3/8 inch backset for wood residential and 2-3/4 inch backset for metal doors. The cylinder housing must be inserted into the cross bore hole before the bolt housing can be assembled. The bolt

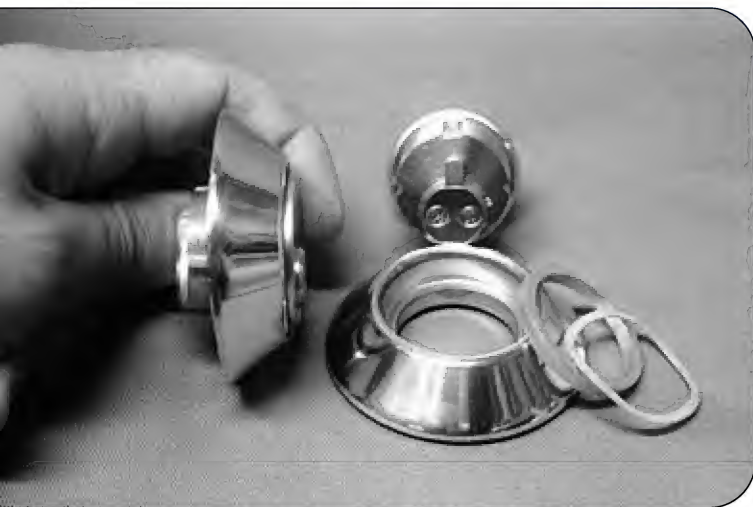
housing will fit into the side opening of the cylinder housing shown earlier. After fully inserting the bolt housing into the cylinder housing, the two cylinder housing screws should be fastened to lock the two parts together.

If you look at the assembly so far, in *photograph 7*, you'll see a small gap between the cylinder housing and the physical limits of the 2-1/8 inch cross bore hole. Although a 2-1/8 inch cross bore hole is recommended, a hole as small as 1-7/8 inch



**7. Cylinder housing and the physical limits of the 2-1/8 inch cross bore hole.**





**8. Two sets of cylinders, cylinder roses, spacer rings, and wave washers.**



**9. The Allen wrench is along side the bolt and is sticking out from the edge of the door.**



**10. The latch face plate is attached**

will also work. For this article, I am installing the double cylinder version (#4520) of the lock. In this case, the lock will be actuated on both sides by the cams interacting with the pin on the bolt housing. The single cylinder version (#4500) uses an inside thumb turn that has a tail piece that interacts with the bolt housing within the slot just below the word "TOP".

*Photograph 8* shows two sets of cylinders, cylinder roses, spacer rings, and wave washers. To the right, they are all separate. On the left, they are assembled. The spacer ring should only be used (when using standard length cylinders) for doors that are 1-3/8 inches thick. Normally, you would slide

the wave washer over the cylinder and then fit the cylinder inside the cylinder rose. The wave washer is designed to allow a snug fit when threading the cylinders into the cylinder housing.

On a standard 1-3/4 inch thick door, you could use the spacer rings in situations where you need to use a six pin cylinder and the shortest possible mortise cylinder length is 1-1/8 inches. Use of longer cylinders would require some kind of spacer behind the rose itself. I have heard that LORI made special spacers for that purpose, but suppliers don't always stock them.

A flat metal cam cover is attached at the back of the cylinder. The cam cover is already attached if you use the LORI cylinders included with the deadbolt lock. If you use other brands of cylinders, it is recommended that you use the cam covers included in the screw packet. The cam covers are designed to block the opening at the back of the keyway broaching to resist bolt manipulation through the keyway.

To thread the lock cylinders into the cylinder housing, you can either use an operating key and insert it less than all the way into the keyway (so the pins don't line up at the shear line) to use it as a turning wrench or use a blank key which works best. You should screw the cylinder in until it stops, and then back it off at least one full turn. The cylinder on the opposite side will automatically stop turning when the door thickness doesn't allow it to turn further. Once you reach that limit, back the cylinder off until the cylinder is oriented so that the cam is in the proper position. The wave

washers will act to maintain a snug fit.

A cylinder has been threaded into the cylinder housing in *photograph 9*. The Allen wrench is along side the bolt and is sticking out from the edge of the door. Before you tighten the set screw, it is a good idea to make sure that the slot in the cylinder (for the set screw) is properly centered. You can do that by tightening the set screw gradually, while slightly moving the cylinder as the set screw finds the center of the slot.

**T**he latch face plate is attached in *photograph 10*. All that is left is to attach the two screws. This side view gives you some idea of the possible problem that someone unfamiliar with the LORI deadbolt may have in removing the cylinders. There are no apparent attaching screws that hold the cylinders in place. That face plate must be removed in order to slide the Allen wrench inside the gaps on the side of the bolt to loosen the set screw. Unless you have a set of long handle Allen wrenches, you won't be able to service this lock. I tend to save the Allen wrenches that come with the locks to use when I need to service a LORI deadbolt. They are not the most durable Allen wrenches, so don't expect them to last for years. You may want to buy a stronger one if you service a lot of LORI deadbolts, or when you have sticky set screws.

*For more information on LORI locks circle 287 on Rapid Reply or contact:*

**LORI Lock**  
384 Old Turnpike Rd., P.O. Box 1040  
Southington, CT 06489  
Phone: 860-621-3605  
Fax: 860-621-5972  
Web: [www.Lorilock.com](http://www.Lorilock.com) **TNL**



# ISC East Booth Listings August 31 - September 2, 1999



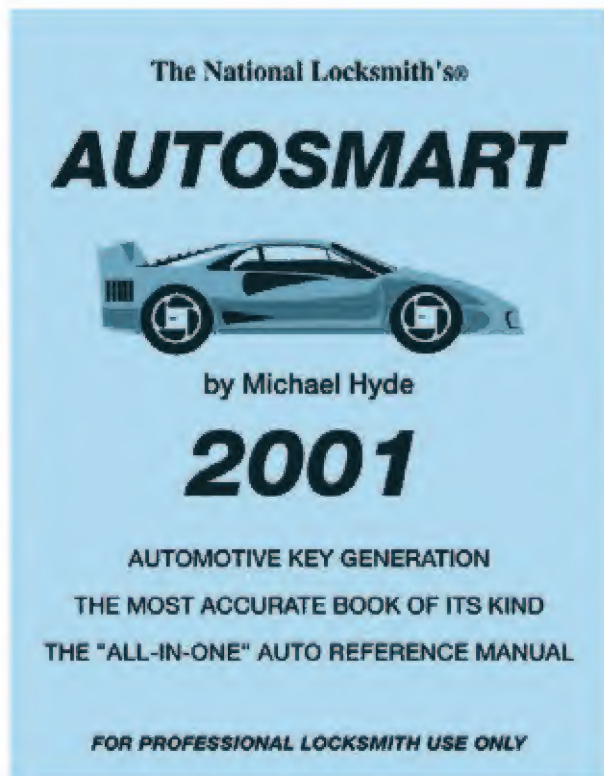
# Jacob K. Javits Convention Center New York City, New York

Company	Booth Number	Company	Booth Number	Company	Booth Number	Company	Booth Number
1 800 Dummy Camera, Inc. ....	361	Canon U.s.a. Inc. ....	654	Elmo .....	765	J. O'brien Company .....	1666
3R Technologies .....	778	Capricorn Electronics, Inc. ....	1937	Emergency 24 .....	418	J.A.M. Plastics Inc. ....	1048
8X8, Inc. ....	761	Cardac Inc. ....	1661	Essen Trade Shows C/O Gacc1258		J.C. Gury Co. ....	184
A-Link Corporation .....	1573	Cardkey Systems .....	436	Europlex Technologies		J.P. Freeman And Co .....	1354
ABM Data Systems .....	456	CBC America Corp. ....	1355	USA Inc .....	2236	JBE .....	764
Accele Electronics, Inc. ....	966	CE Pro Magazine .....	126	Evax Systems .....	2419	Jensen Tools .....	2260
Access Control & Security .....	1042	Cellular Alarm Products, Ltd. ....	424	Everfocus Electronic Corp. ....	862	Jeron Electronic Systems, Inc. ....	2347
ACT Meters Ltd. ....	1249	Central One Monitoring .....	1059	Extreme Cctv Surveillance .....	977	JJ Communications .....	759
ADC Technologies International		Chamberlain Access .....	454	Faraday Distribution Center .....	2161	JLM Wholesale Inc. ....	1943
PTE Ltd .....	1564	Channelpus/Multiplex Tech. ....	1243	Fargo Electronics, Inc. ....	2337	Joseph A. Thomas, Ltd. ....	2142
Ademco .....	1319	Chapman Technologies Inc. ....	2349	Ferrostaal Inc. ....	575	JVC Corporation .....	467
Ademco-first Alert .....	2231	Checkpoint Systems, Inc. ....	116	Fiber Options .....	2205	JW Gigatek, Llc .....	1678
ADI .....	719	Cias Electronica S.R.L. ....	1972	Financial Security Services .....	142	Kalatel, Inc. ....	2119
Adrian Steel Company .....	1373	Citadel Technology, Inc. ....	2359	Fire.lite Alarms Inc. ....	636	Keltron Corporation .....	1242
ADT Security Services, Inc. ....	1907	Clark Security Products .....	1473	Fisher Research Laboratory ..	1479	Kenwood Communications ..	1254
Advanced Technology Video,		Clifford Of Vermont Inc. ....	106	Flair Electronics, Inc. ....	2232	Keri Systems, Inc. ....	2401
Inc .....	1142	Code Access Inc. ....	1369	Forerunner .....	762	Key Systems Inc. ....	2043
AES-intellinet .....	1255	Code Blue Corporation .....	472	Fujinon, Inc. ....	1146	Keystone Wire & Cable Co. ....	260
Affiliated Central Inc. ....	731	Colorx Corp. ....	1664	Garrett Metal Detectors .....	1973	King Central .....	837
Aiphone Communication		Communications Specialties,		General Meters .....	1268	Kodicom Co, Ltd .....	672
Systems .....	941	Inc. ....	1054	Genesis Cable Systems, L.I.c. 1766		Kodo Corporation .....	855
Alarm Central, Inc. ....	440	Computerized Monitoring		Gentex Corporation .....	212	Kowa Optimed .....	1049
Alarmsoft Inc. ....	220	SVCS .....	1137	GK Technology .....	773	KP Electronics Inc .....	1872
ALAS .....	262	Conduxem, Incorporated .....	1264	Global Control Systems Inc. ....	1237	KTI, Inc. ....	209
Allied Central Services .....	1340	Contex A/S .....	679	Golden State Instrument Co. ....	143	Labor Saving Devices .....	155
Alpha Communication Inc .....	104	Continental Instruments Llc ..	1560	Goyo Optical .....	878	Laminex .....	2269
Alpha Systems Lab, Inc .....	464	Corby Industries, Inc. ....	1554	GRI .....	100	Lease Acceptance Corp. ....	268
Altronix Corporation .....	537	Core Technologies .....	572	GS Battery (U.s.a.) Inc. ....	1159	Leasecom Corporation .....	1256
Alvarado Manufacturing		Crimestoppers/Millennium		Guardall North America .....	1679	Lee Dan Communications Inc 1043	
Company .....	1273	Enterprises .....	1240	GVI Samsung .....	401	Linear Corporation .....	1619
Amcest Corporation .....	319	CRN Telemetry Devices Inc. ....	1163	GYR Inc. ....	545	Litton Poly Scientific .....	560
Amco Engineering Co. ....	1962	Crow Electronic Eng. Inc. ....	460	Hanchett Entry Systems, Inc. 2049		Loronix Information Systems ..	658
American Fibertek Inc. ....	473	CSI/Speco/Pro-video .....	645	Hayden Manufacturing .....	134	Louroe Electronics .....	1372
American Video Equipment .....	566	Cubic Videocomm, Inc. ....	563	Help 4 You Inc. ....	2331	Lucasey Manufacturing Corp. ..	860
Amseco .....	2131	Custom Newsletter Concepts 1061		HID Corporation .....	1719	M&S Systems .....	330
Anicom Inc. ....	1967	Darim Vision Co. Ltd. ....	445	Hilton Trading Corp. ....	986	Macurco Inc. ....	158
Anti Wire Tap Devices .....	2268	Delta Designs .....	2262	Hirsch Electronics Corp. ....	2301	Madah-Com, Inc. ....	1149
Applied Integration Corp. ....	949	Deltavision .....	2018	Home Systems Installer .....	224	Marketel Systems .....	208
Appro Technology, Inc. ....	779	Detection Systems Inc./		Homeowners Marketing		Marlee Electronics	
ARK Solutions .....	2436	Radionics .....	411	Services .....	331	Corporation .....	1063
Artnix, Inc. ....	1873	Detex Corporation .....	2036	Hotronic Inc. ....	559	Marshall Electronics .....	1037
Atlantek, Inc. ....	1561	Dice Group .....	1955	Hypergraphic Impressions,		Mas-Hamilton Group .....	1460
Atlas Wire & Cable .....	1346	Digital Cctv.com .....	663	Inc. ....	1072	Matrox Electronics Systems,	
Atop Technologies, Inc. ....	561	Digital Monitoring Products ....	1901	I-Buss Uniform/Allan Uniform ..	240	Ltd .....	1166
ATW/Alarm Technology		Digital Processing Systems,		ID Systems .....	1765	Maxitel, Inc. ....	1336
Worldwide .....	1247	Inc. ....	429	IDC .....	255	Maxwell Alarm Screen Mfg. ....	428
Automatic Control Systems ..	1362	Digital Security Controls Ltd. ....	1601	Ideal Industries Inc. ....	867	Mayflower Sales Co Inc. ....	343
AWID, Inc. ....	1861	Digital Security Controls Ltd. ....	1811	Identification Resources .....	1271	Mbm Corporation .....	1966
Axis Communications, Inc. ....	978	Direct Plus .....	1862	Idesco Corporation .....	1361	MCDI .....	218
B & B Battery (usa), Inc. ....	2042	Ditek Inc. ....	959	Ikegami Electronics (usa), Inc. ..	955	Medeco Security Locks .....	1466
Baldur Systems .....	858	Doorking, Inc. ....	1259	Ilco Unican Inc. ....	2105	Merry Electronics USA .....	219
Barantec .....	1161	Dorado Systems Corp. ....	1760	Image Vault, Llc .....	1073	Micro Key Software, Inc. ....	200
BEC Technologies Inc. ....	963	Dortronics Systems, Inc. ....	1660	Infographic Systems Corp. ....	1655	Midwest Wholesale Hardware ..	2041
Best Access Systems .....	2066	Doshin Electronics .....	1140	Ingersoll-rand Architectural		Mirage Corporation .....	2055
Bi-Tronics Inc. ....	1041	Dsx Access Systems, Inc. ....	2155	Hardware .....	1643	Mirtone .....	1863
BK Systems, Inc. ....	1162	Ducommun Technologies, Inc. 442		Ingersoll-rand Architectural		Monaco Lock Company, Inc. ....	210
Bold Technologies Ltd. ....	1155	Dynalock Corp. ....	2137	Hardware .....	1745	Monital Signal Corp. ....	1055
Bolide .....	863	Dynapix Wireless Video .....	960	Innovative Business Software. 1173		Monitoring Automation	
Brinks Home Security, Inc. ....	324	E.A. Waetjen, Inc. ....	1365	Inovonics Corp. ....	1947	Systems .....	1649
Bristol Graphics Inc. ....	2323	Eastman Wire & Cable .....	422	Integral Technologies, Inc. ....	261	Monitronics International, Inc. ..	249
Butterworth Heineman .....	2437	Echostar Communications		International Electronics Inc. ....	529	Monitronics International, Inc. ..	354
C & K Systems, Inc. ....	501	Corp. ....	237	International Fiber Systems .....	743	Monthly Security World .....	2165
C P Films .....	148	ECSI-International, Inc. ....	1364	Interstate Battery .....	1366	Morse Watchmans, Inc. ....	1046
C-phone .....	973	Edwards Signal & Fire Alarm ..	478	IPSS .....	864	Motorola Indala Corp. ....	1461
C.O.P.S. Monitoring .....	1737	Elbex America Inc. ....	554	ISO/Rainbow .....	749	Mythos Corporation .....	676
C2 Home & Office Inc. ....	325	Electronics Line .....	947	ITI .....	1629	Napco Security Group, Inc. ....	1519
CABA North America's Home & 207		Elite Access Systems .....	1673	Ivec International Inc. ....	661	NBFAA - National Burglar & ...	2423
CADDX Controls Inc. ....	2125	Elk Products, Inc. ....	1546	J. Batko Inc. ....	449	Network Video Technologies, Inc. ..	666



Company	Booth Number	Company	Booth Number	Company	Booth Number	Company	Booth Number
Neuron Electronics Inc. ....	1868	Resource Technology Int. ....	306	Sentry Technology Corporation	859	Total Recall Corp. ....	355
New Era Publishing Company	1875	Ria Electronic, Inc. ....	2341	Shepherd Systems, Inc. ....	655	Totevision ....	1860
Nice Systems.....	574	Ring Communications, Inc. ....	2325	Signal Cable Co. ....	1358	Trango Systems.....	665
Noritake Co., Inc. ....	1464	Robotec USA Inc. ....	101	Signal Communications Ltd. ....	964	Trilithic Inc. ....	2261
Northern Computers .....	1801	Rokonet Industries.....	737	Silent Witness .....	243	Trine Products Company .....	1045
Northern Information Tech. ....	866	Rosslare Enterprises Ltd. ....	137	Sims .....	945	Triwest/USI .....	1245
NTSI .....	1360	RTL Technology Inc. ....	323	Smarter Security Systems, Inc .....	1338	Ultra Electronics Card Systems.....	2450
Odyssey Technologies .....	372	Rume Corp./Sound Threshold System .....	1945	Smith & Wesson .....	843	Ultrak, Inc .....	347
OK Security Corp. ....	965	Rutherford Controls Inc. ....	1867	Softcon (Software Control Services) .....	1064	Underwriters Laboratories Inc	1058
Omron Electronics, Inc. ....	1136	S.H. Smith & Co. ....	1047	Sonntag .....	2309	Union Battery Corp .....	1244
Optex America .....	1829	S.T.S. Products Corp.....	2225	Sony Electronics .....	1819	United Security Products .....	937
Opticom Technologies, Inc. ....	461	Safe-T-Net.....	211	Southwest Microwave.....	1036	Uplink Security, Inc .....	2136
Ortronics Inc. ....	327	Safeguards Technology, Inc. ....	341	Sprint North Supply .....	1347	Urbaco USA.....	1578
Osborne-hoffman Inc. ....	1165	Safety Technology International	437	Ssangyong (USA). Inc. ....	1147	Vanguard Security Engineering .....	2148
OSI Security Devices.....	272	Saflok .....	2050	ST Electronics .....	2073	Vicon Industries Inc. ....	2211
Panasonic Security & Digital Imaging Company.....	1536	Samsung Opto-Electronics .....	673	Stam Multimedia Inc. ....	861	Video Mount Products .....	760
Panavise Products, Inc. ....	958	Sanyo Fisher Company .....	419	Stat Resources, Inc. ....	1145	Videology Imaging Solutions ..	1348
Paradox .....	1845	Scope-Care .....	873	Strategic Vista Corporation .....	2219	Vision Factory .....	1246
Pelco .....	618	SDM and Home Systems Installer .....	301	Street Smart Security .....	1231	Visions Televideo Technologies .....	564
Pentax Corporation.....	931	Se-Kure Controls, Inc. ....	1167	Summit Security Services, Inc. ....	2418	Visiontech .....	146
Pentax Technologies.....	758	Secura Key .....	1637	Sun Kwang Electronics Co, Ltd. ....	463	Visonic Inc. ....	1855
Philips Business Electronics .....	311	Securitech Group, Inc. ....	2037	Sungard.....	1066	Visual Methods, Inc. ....	961
Power-Sonic Corp. ....	1941	Securitron Magnalock Corp ..	1837	Sure Action .....	1150	Watec America Corp.....	1755
Primary Image [Vision Systems] Ltd.....	308	Security Alarm Financing Enterprises, Inc. ....	1065	Syac .....	573	Welch Allyn .....	879
Proprietary Controls Systems	1241	Security Dealer .....	578	Synergistics .....	1667	Westernce, Inc. ....	1069
Protag Systems, Inc. ....	550	Security Door Controls.....	629	System Sensor .....	1529	WG Security Products .....	755
Protech/Protection Tech .....	2413	Security Industry Association ..	1130	Tane Alarm Products .....	269	Wheelock, Inc. ....	849
Protection One.....	1929	Security Information Systems.....	310	Tecton Inc.....	555	Wing Enterprises Inc. ....	156
Pulnix Sensors, Inc. ....	1961	Security Lock Dist. ....	1467	Telesite USA Inc.....	314	Winland Electronics.....	273
Quantum Group Inc. ....	1266	Security News.....	1158	Telsor RFID Inc. ....	1565	Winsted Corporation .....	366
Quartermaster.....	1272	Security Products Int'l, Inc. ....	204	Telular Corporation .....	2327	Wren Associates .....	567
Ranger Security Detectors, Inc. ....	365	Security Products Magazine.....	1060	Testrite Instrument, Co, Inc ....	1138	WSE .....	1761
Rapid Response Monitoring Serv. ....	300	Security Sales Magazine .....	2343	Texecom Ltd.....	2330	X-10 Pro .....	2111
Recognition Systems, Inc. ....	1665	Security Systems News .....	1262	The Mechanic Group .....	558	Xantech .....	322
Record/Playtek, Inc. ....	387	Security Technology & Design ..	2255	Tiscor .....	1866	Yale Security Group Americas.....	2061
Rees Scientific Corp.....	1566	Securitylink From Ameritech.....	831	TLSI.....	2173	Yuasa Inc.....	426
Remee Products.....	232	Select Engineered Systems, Inc .....	254	Tokina Industrial, Inc. ....	2311	Zero EMI/Stantron .....	455
Research Electronics International .....	1773	Senstar-Stellar, Inc. ....	1342	Tomsed Corporation.....	1151		

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# PRODUCT SHOWCASE

ISC East - August 1999

Circle the numbers on the **RAPID REPLY CARD** and send it in.

## DoorKing Programmable Telephone Systems



DoorKing's model 1815 and 1817 PC programmable telephone entry and access control systems now include 29 programmable security levels, with each level having four programmable time zones. This allows system administrators to restrict access for individual users as needed, and will also set access restrictions at each of the 16 entry locations that the system can manage. In addition to the security levels, the systems now have elevator control capability.

Building managers can now set the system so that a guest of a building resident can only access the floor that the person who granted them access resides on. In addition to visitor control, the elevator control option can also be used to restrict system users to certain floors, depending on which security level has been assigned to them. Up to four elevators can be controlled, with each elevator serving up to 64 floors.

### DMP Security Command™

Digital Monitoring Products, Inc. has released the new Security Command™ LCD Keypad. All Security Command Keypads now feature a red LED to indicate the armed condition of the burglary



system. The LED operates on All/Perimeter, Home/Sleep/Away, and Area Arming systems. The Armed LED is supported by DMP XR10, XR20, and XR200 control panes. The Security Command Keypad is also available with four built-in expansion zones.

## Aiphone Adds Tilt to Color Video Sentry



The Aiphone color Video Sentry Tilt System features a tilt camera at the door, which moves 40 degrees

up and down for a better view of your entrance. This system also includes a 4-stroke electronic chime, instant-on reception, built-in automatic illuminator LED's, high contrast TFT color monitor, backlit call button with Door Release, Volume, Brightness, Tint, Color and Illuminator LES controls. As soon as the chime sounds, the Instant-On feature allows you to immediately hear and see who's at the door before picking up the handset to speak.

The color Video Sentry Tilt Set includes a door station camera, room station monitor with handset and 24V DC power supply. It's easy to install, using the same two wires between stations as an ordinary doorbell system.

## Secura Key Radio Key Prox Reader

Secura Key announces the new Radio Key® RK-WM Proximity Reader, which is designed to integrate into any system requiring a Wiegand output. The reader will read Secura Key proximity cards or keys tags and transmit the data in virtually any Wiegand

Format up to 40 bits. The reader has an attractive, stylish appearance, and is small enough to mount almost anywhere, even on the aluminum mullion frames, popular on many glass-front buildings.

Secura Key's exclusive DYNASCAN™ technology assures maximum performance in any environment. Read distances are up to 6".

This completely potted unit is rated for extreme weather use and is vandal resistant. Includes a bi-color LED and buzzer control, which is field selectable.

## New SDC 40 Series Electric Strikes





The new SDC 40 Series electric strikes are designed for use with locksets having up to 3/4" throw latchbolts. Features include low current draw, fewer moving parts for increased reliability, reversible insert for auxiliary deadlatch feature, keeper alignment adjustment and plug connector. The SDC 40 series exceeds 3/4 million cycle test, 1500 lb. pull test and are BHMA Grade 1 and UL listed under Auxiliary Locks and Burglary Protection.

### DynaLock Corp. Electric



CIRCLE NUMBER  
358

### Security Hardware

DynaLock Corp. has introduced the model "OFA" Offset Armature designed to eliminate interference problems encountered when installing maglocks on narrow stile glass and aluminum doors.

The armature mounting holes have been repositioned 1/4" above center

to clear internal door structures and facilitate installation.

### WonderTrack Digital Event Recorder



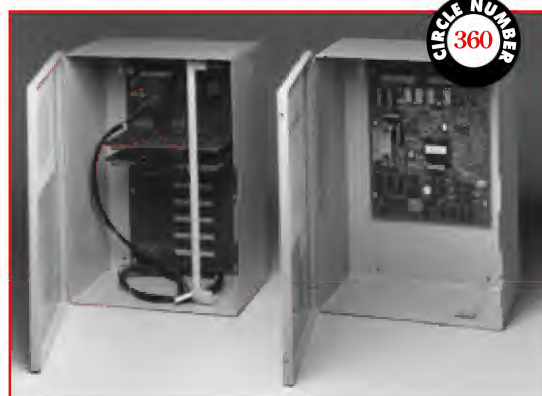
CIRCLE NUMBER  
359

Winner of ISC West's most innovative product award, WonderTrack is the affordable problem solver for many CCTV recording applications. WonderTrack is a digital "catch" recorder that stores crystal clear, digital images onto eight or sixteen megabyte memory cards. With no tape or recording heads to wear out, WT-110 provides many years of reliable and easy operation.

WonderTrack also includes a four channel alarming switcher and a burglar alarm interface, which integrates your customer's CCTV system with their security system.

### No Phone Line System Integrates Seamlessly

Marlee Electronics latest NPL II (no phone line) system offers building owners the ideal solution of being able to integrate the system with all or any of their entrance panels seamlessly. This includes Marlee's VF Series 4 line scrolling directory model.



CIRCLE NUMBER  
360



## AutoSmart Advisor

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#ASA - 2000



When integrated with a Marlee panel, the NPL II takes control of the dialing process between the lobby and each resident in the building. The system creates a novel distinctive double ring instead of the traditional ring and each resident receives call waiting for lobby calls if they are already on the phone. And of course, the NPL II eliminates the need for the building owner to rent a phone line to operate the system, paying back the initial cost of the system by as little as two years. Programming problems? Forget them. Once an NPL II system has been installed, it never needs to be reprogrammed with phone numbers again.

### Napco Gemini Personal Panic Button

In response to requests for a personal security product, NAPCO Security Group announces the launch of the Gemini Waterproof Personal Panic Button. This attractive device is designed to be worn around



the neck at all times to provide constant peace-of-mind. A quick click of the teal button notifies the central monitoring station to dispatch help immediately.

The Waterproof Personal Panic Button is impervious to water so that it can be worn in the shower or outside in all kinds of weather. It features a single central oversized button for easiest operation, even with sight-impaired users.

Another application for the Personal Panic Button is as under-the-counter/desk/table panic button in an office, retail establishment, or even a home. As in the above scenario, pressing one-button signals

a central station that an emergency situation exists.

### Corby's Building Master

Corby's Building Master access system supports four doors, 750 users and high-security digital keypads. A Request-To-Exit button can be used to exit an area and a magnetic contact can be installed to report door ajar conditions. For applications requiring time restriction of users and/or automatic relay operation, eight time schedules and 64 time zone are supplied. Public access doors can be programmed to automatically open according to the programmed time schedules set up by the system administrator.



Each system is shipped complete with four weatherproof, heavy-duty, cast-metal keypads. With the addition of a door lock and power supply for the lock, your installation is complete. The built-in relays can switch power to electric door locks, arm or disarm alarm systems, shunt alarm devices, or operate garage doors. User codes can be programmed with a name, user ID, time and door restrictions, duress and anti-passback.

### Stanley's New Door Monitoring Switch

Stanley has introduced a new door monitoring switch for use with its 600 series continuous hinges. The CS600 door monitoring switch features a small exposed push-button switch incorporated into the hinge frame leaf to monitor door position.



The 600 Series continuous hinges are designed to withstand the most punishing use, providing full-height door support and distributing stress evenly along the length of the hinge, door and frame.

"The CS600 door monitoring switch is ideal for schools or hospitals where secure doors are needed. Its durable construction makes the door monitoring switch tough enough for heavy-duty industrial conditions.

### Crest Electronics Mini Color Cameras

Perfect for covert use, Crest's new CJ-9612 and CJ-9712 mini color cameras feature DSP circuitry, 1/3" CCD image sensor, 330 lines of

## Modern Safe Locks

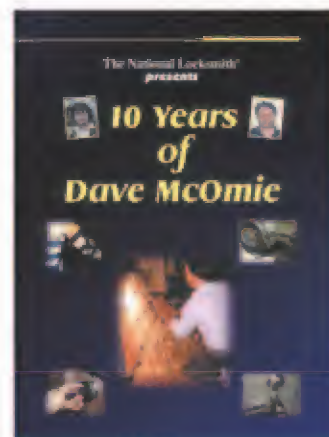


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#MSL - 1

## 10 Years of Dave McOmie

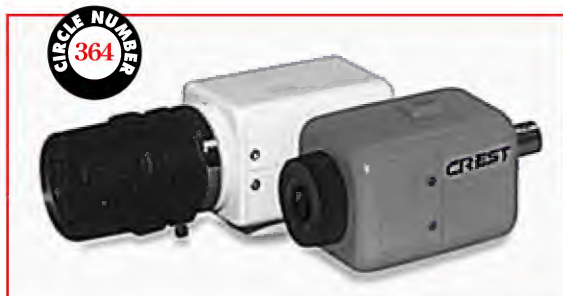


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#DM - 10





supports a Door Contact for Door Hold Open and forced entry annunciation as well as an Exit Button. Other features include VAL (Variable Audio Level) and DAT (Dual Audio Tone). The DAT feature provides a distinct full-volume tone, separate

resolution, 1 lux, and 12vdc operation. The CJ-9612 accepts C or CS mount lenses and can be used with auto or manual iris lenses. The CJ-9712 has a built-in mini lens with macro focus. And, all of Crest's cameras, as well as monitors, quads, multiplexers, lenses, video recorders, and accessories come with a 2-year warranty!

### CanProx MAC Stand Alone Proximity System

The CanProx MAC (Micro Access Controller) is a fully self-contained proximity access control system that supports up to 99 users. The CanProx MAC consists of a CanProx proximity card reader that is connected to a LAB (Lock Adapter Board) installed on the secure side of the door. The unit



from VAL on Forced Entry conditions. All programming is accomplished using a set of Proximity Digit cards. Uses HID cards. **TNL**

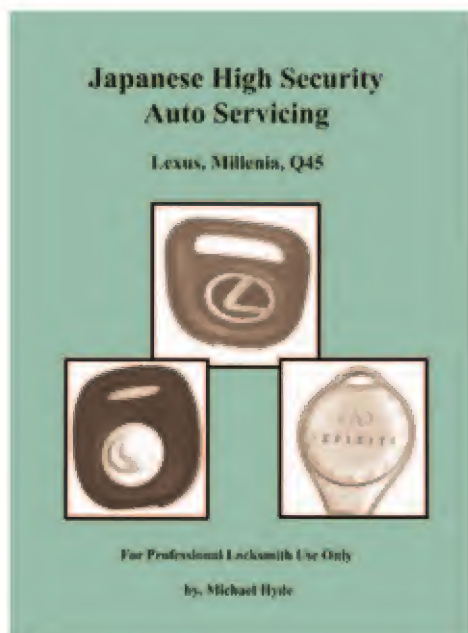
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#DIS - 2000



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#JAP - 1





# the Gardlok

by Tom Lynch **300**



In the late 1800's, Linus Yale introduced the "Cylinder Lock" with the pin tumbler design. This improvement became an evolutionary leap for the modern day locksmith and its use is still an industry standard today. One hundred years later as the new millennium approaches, another evolutionary challenge has appeared. The GardLok 300 by Saflok of Costa Mesa, CA. is an electronic access control locking system. (See photograph 1.)

It measures a mere 5.35" H x 1.70" W x 1.25" D. Its original design accommodation is for 1.75" aluminum frame doors utilizing the Adams Rite MS1850 style swing bolt. This access control unit may not offer the broad versatility as the cylinder lock of yesteryear, but it does introduce a new approach towards the future of a keyless society. Although there is already been a keyless mechanical lock available, it does not offer the flexibility of multiple users.

The GardLok 300 fills a niche between the option to rekey or replace an existing mortise cylinder, or upgrade to a full blown access control unit. In most cases the cost to install a single door access control unit for a commercial customer is cost prohibitive, while repetitive rekeying doesn't truly provide the solution most clients are looking for. Given the opportunity, most customers will be receptive to the purchase of a system that offers them the ability to issue individual access codes to employees, add and delete personnel as needed and not worry about keys!

This units list price is \$180.00, with an installation time of under 30-minutes. A commercial customer presents the opportunity for greater profits on every call for a rekey. It is true that you may lose out on



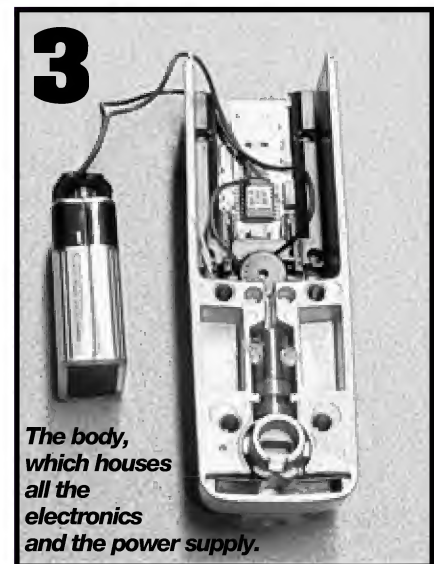
**1**  
The  
GardLok  
300 by  
Saflok.



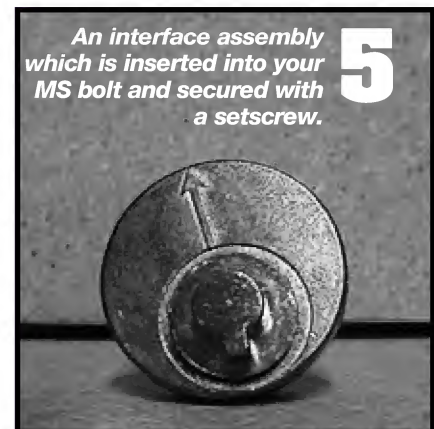
**4**  
A 9-volt  
alkaline  
battery  
powers  
the  
GardLok.



**2**  
All the parts of the  
GardLok 300.



**3**  
The body,  
which houses  
all the  
electronics  
and the power supply.



**5**  
An interface assembly  
which is inserted into your  
MS bolt and secured with  
a setscrew.

future rekeys, however, both you and your customers time management will improve. Achieving this customer satisfaction and confidence will allow you to offer a service contract for preventive maintenance that



includes a spot check for all door hardware and battery replacements. You can even offer code changes if your customer prefers. By doing this you will have more time to solicit more installations and create a basis for yearly recurring revenue.

As I mentioned earlier, the time has come for a new approach. The age of electronics is here, and as in the past, its applications will eventually impact upon us all and you should remember that if you don't become creative in this market, then your competitor will!

### Parts & Installation

In *photograph 2*, you will see all the required parts of the GardLok 300. The unit body, black base plate, interface cam, lock bolt bridge, three 2-1/8" machine screws and one 10/24 machine screw.

*Photograph 3*, is the body which

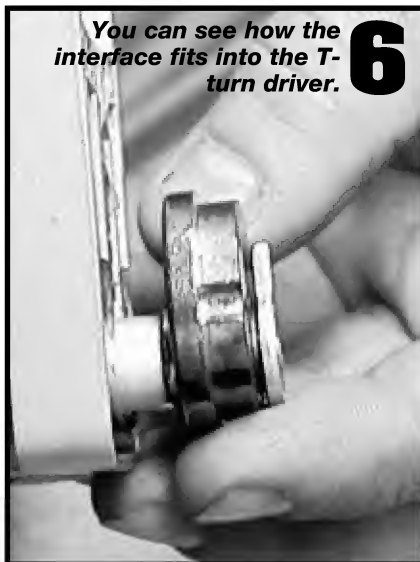
houses all the electronics and the power supply. Its buttons are made of rubber and are numbered 0-9. A large T-turn is provided for easy control. A 9-volt alkaline battery powers the GardLok. (*See photograph 4.*) You will see an interface assembly in *photograph 5*, which is inserted into the Adams Rite lock to activate the bolt and is secured with a setscrew just like a mortise cylinder. The cam should be installed with the arrow "up" and the cam driver pointing down.

In *photograph 6*, you can see how

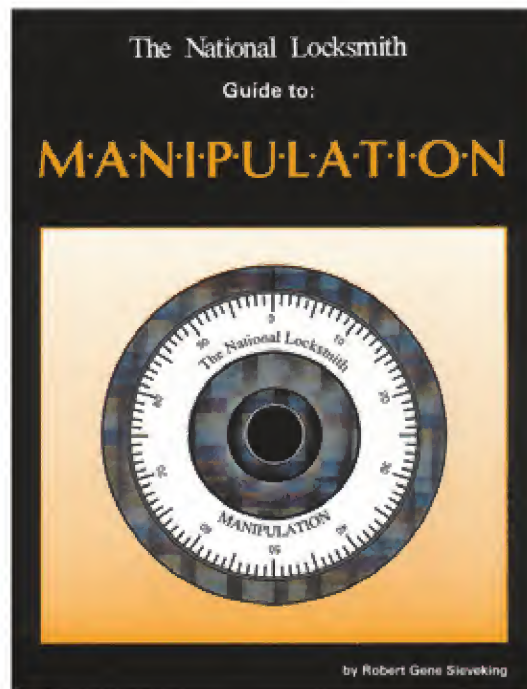
the interface fits into the T-turn driver on the GardLok unit.

To begin installation you must first remove the existing lock body from the door and locate the centerline of the doorframe then simply apply the provided adhesive template. (*See photograph 7.*) Drill three 1/4" holes on both sides of door.

Once all holes have been made you must now insert the bridge bracket into the doorframe and pass two 2-1/8" machine screws from the rear of the door, through the bridge and out the front of the frame. If you have



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#MAN - 1



difficulty installing the bridge, look into the channel of the doorframe for any obstructions like a bead of aluminum weld, which may prevent the bridge from butting flat against the frame. If you find this situation, simply grind down the edge of the bridge or the obstruction to compensate. (See photograph 8.) Install your lock bolt and tighten into place.

Once in place, you now install the interface into the lock bolt. (See photograph 9.)

You are now ready to mount the GardLok unit to the door. Align the interface with the T-turn and screw the 2-1/8" screws into the unit. Once mounted you can install the 9-volt battery and test. Place the cover over the top and secure with the third screw. Finish your installation by replacing the interior T-turn and the lock bolt cover plate. (See photograph 10.)

### Programming

To program the GardLok 300 you will need to change the factory set code of 111111, to your customers code or to your control code if you are going to be the administrator for the customer. The master code for the GardLok is always stored in Level 1. All other nine combinations are stored in levels numbered 2-0.

1. Depress the "0" key until the unit beeps twice.
2. Enter factory code 111111, then press 1 for the level. The unit will beep twice.
3. Enter your new six-digit Master code twice. The unit will beep twice after the first number and give a long beep after the second time.

At this point you will have successfully entered a new master code. From this point on you must use the new Master code for all future code changes. To program a user code, the procedure is the same with the exception of the choice of the level (or user).

If you now desire an additional user you must first:

1. Press "0"
2. Enter Master code
3. Choose level 2
4. Enter new user code.
5. Enter new user code again to confirm.

This process will continue with only the level number changing as

assigned to newer users. GardLok has the ability to operate up to a total of 9 codes, plus the master code for a total of 10. Not bad, for a small self-contained unit that's quickly installed. To delete a user the procedure is equally easy.

1. Press "0" key until unit beeps twice.
2. Enter Master code - then enter the level (user) you want to delete (2-0.)
3. Press the 2 key and hold until the unit beeps twice.

The user code is now disabled.

The GardLok also has the ability to re-enable a user code by repeating the above steps after you have deleted the user. This is a wonderful feature that allows your customer the opportunity to temporarily remove an employee who may be absent for a period of time. All codes that are removed from service will stay in memory until used or changed. Also, the memory is non-volatile. If the battery goes dead it will not erase the codes. The appropriate understanding should be that change, not deletion is the objective when reprogramming.

Once the unit has been programmed, a user has four to five seconds to turn the T-turn to operate the lock. Any unauthorized entry attempts will be locked out after six attempts, for time period of 1 minute and 15 seconds.

### Low Battery Warning

If the master or user code is entered twice and the lock beeps 8 times rapidly, this indicates the battery voltage is low. This will only occur for 20 openings. After 20 openings, either code will have to be entered three times before the lock will open. If the battery is not changed the unit will eventually fail to operate.

### Product Features

The GardLok 300 has some interesting features that will immediately cause you to ask "why." So, in the interest of this article I will try to address them. A noticeable point is the fact that the T-turn will re-lock into place if not fully rotated within the allotted time period after the code is entered. Leaving the user to re-enter their code to restore it back to the 12:00 position. This happens due to the grooved spindle of the T-turn. (See photograph 11). Its purpose is to prevent the user from becoming complacent about the full throw of the bolt. People would tend to walk away

as soon as the bolt is thrown, not realizing that it is not fully engaged. This T-turn will also shear off under stress or wrench attack.

Next you will find two threaded holes in the rear of the unit body above the solenoid. (See photograph 11.) These have been prepped for future versions of the GardLok to operate other styles of lock bolts. You would not need to utilize them for the installation method in this article. We will have to wait and see what the future has in store for us!

The circuit board is protected by a Parylene coating to protect it from moisture. This Positive Vapor Deposition (PVD) process is the same

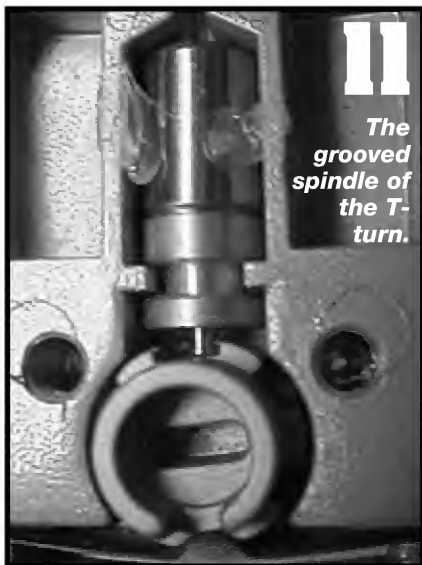




used at NASA for the Mars mission. Choice of the PVD process ensures an even layer of protection on all areas of the electronic components. Three GardLok 300's were tested for three weeks at 95 degrees with 100% humidity. Only one unit indicated a low battery alarm, and this was due to the 9-volt battery connection, which is not protected by any conformal coating.

The most noticeable item that is absent is a key bypass. Having a unit such as this may concern you if ever the time came to enter due to a malfunction or unknown code. This fact at first could be alarming, however, it is no different than other access control devices that lack this feature. Not having a key bypass makes this a more secure device against surreptitious entry.

### Emergency Bypass

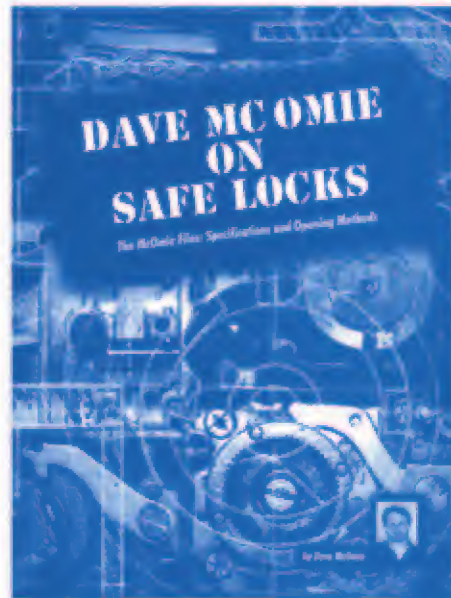


The GardLok 300 is capable of being bypass in three ways. Each method I have found does require a destructiveness to some degree. However, each is effective and is considered based upon the cause of the unit's failure or need to open. Also, any release of repair parts or kits by the manufacturer would enable these units to be placed back into service depending on the opening method used. Although, replacement of any unit after penetration is recommended when needed.

### Bypass Drill Points

Another way to activate the

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#DMSL - 1





solenoid if the battery is dead is to attack the solenoid wires. This can be accomplished by drilling through the side of the lock case. Measuring 1/4" from the side of the unit back from the surface of the black back plate and 2-1/16" down from the battery cap cover seam. (See photograph 12.) Using the same drill bit size of 11/64", open a hole at a slight downward angle. This hole will allow access to the solenoid wires. Insert a hook and pull the wires out.

In photograph 13, you see two

white wires sticking out from the side of the unit. These are the solenoid wires that can be either cut or stripped to energize from the exterior to bypass the circuit board in the event of a failure and activate the solenoid.

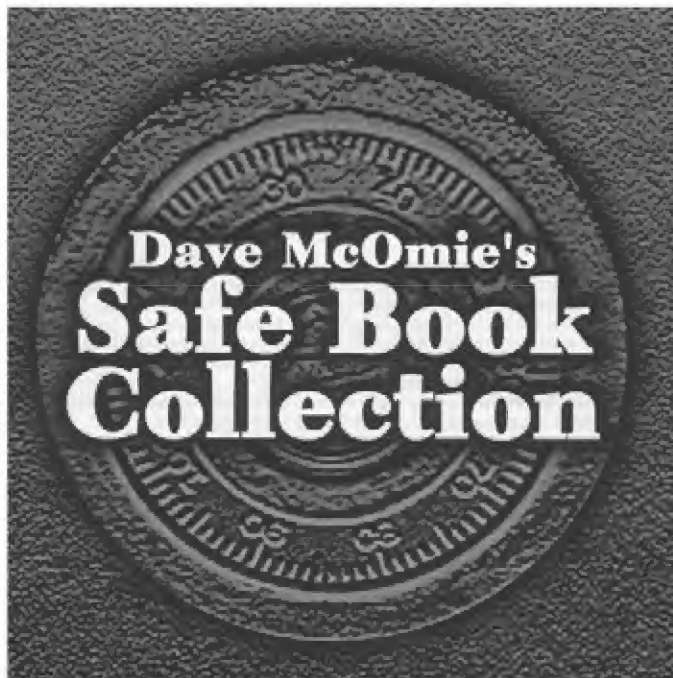
If you believe the solenoid has failed, remove the screw located under the T-turn and remove the T-turn and nylon washer. (See photograph 14.) Drill just above the T-turn spindle, in line with the screw hole; or to be precise, 1/16" up from the spindle. (See photograph 15.)

A direct plunge with the drill will eliminate the solenoid pin and allow an easy opening. It is similar to drilling for a shearline on a mortise cylinder. (See photograph 16.)

By drilling with finesse you may be able to broach the unit body enough to manipulate the solenoid pin up and turn the spindle, but I find this to be too clumsy and time consuming. (See



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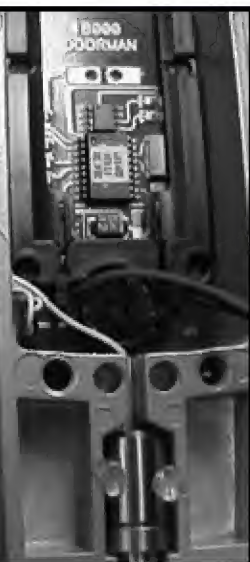
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#DMCD - 1



**16**

A direct plunge with the drill will eliminate the solenoid pin and allow an easy opening.



**17**

By drilling with finesse you may be able to broach the unit body enough to manipulate the solenoid pin.



photograph 17.)

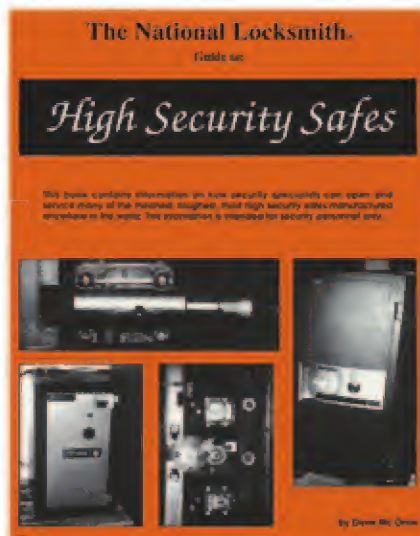
The GardLok 300 presents an opportunity with the features installed in this compact unit. Dare to be different and set yourself apart from the competition, investigate it's potential in your market!

For more information on the GardLok contact:

Saflok  
1020 West 17th Street  
Dept. 207  
Costa Mesa, CA 92627  
Phone: (949) 722-5400  
Fax: (949) 722-0129  
E-mail: theone@saflok.com  
Web: www.saflok.com  
Circle #391 on Rapid Reply.

TNL

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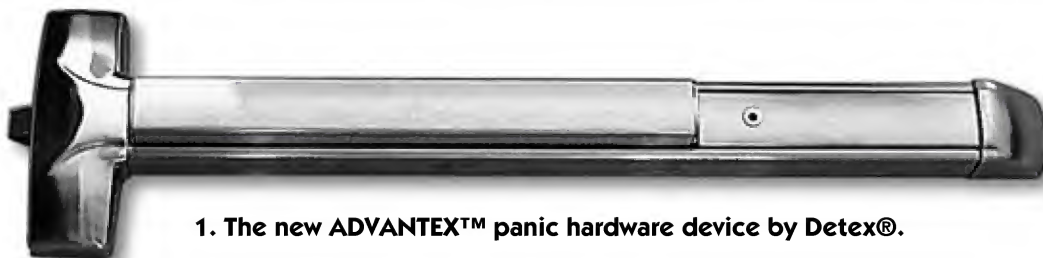
#HSS, HSS - 1

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# The Detex® ADVANTEX™



1. The new ADVANTEX™ panic hardware device by Detex®.

**T**he new ADVANTEX™ panic hardware device by Detex® features cutting-edge design and technology. It is the first panic hardware device designed by and for locksmiths for applications in schools, universities and hospitals. (See photograph 1.)

### Tough and Durable

The ADVANTEX's tough stainless steel construction stands up to the most severe environments and is backed by a five-year limited warranty. The pushpad and the outer housing are made of finished stainless steel wrapped over a heavy ribbed aluminum extrusion. The alignment of the pushpad, the steel pushpad base and housing, and the durable angled endcap, give an incredibly strong resistance to force when struck or kicked open.

### Installation and Retrofit

The ADVANTEX™ features high-performance installation and simple retrofit without templates. The backplate accepts a provided strike locator for perfect backset and precise alignment with the strike, allowing quicker and more efficient installation. ADVANTEX's retrofit capability allows the unit to replace other manufacturer's equipment.

Patent pending installation features include:

- Patent pending strike locator is squared to the frame.
- Patent-pending backplate and strike

locator are paired to form a precise template on the door and frame.

- The backplate and strike are fastened to the door and frame.
- The rim device engages the backplate.
- The backplate holds the rim device to the door while final leveling and fastening is done.

### Outside Trim Options

The ADVANTEX™ outside trims feature a through-bolted modular design concept that allows you to change the function and the trim without actually modifying the rim device. This makes conversion functions easier and, because there are no extra parts, inventory is less of a problem. Streamlined packaging enables fast, easy mix-and-match stock conversions. And to resist vandalism, lever trims include a disengaging clutch mechanism.

### Dogging

The convenient 1/8 turn dogging feature on ADVANTEX™ is accomplished with either a hex key or with a standard mortise cylinder - a great time-saving feature for facilities with many doors.

### Other Features

The same ADVANTEX™ chassis can be used for both narrow and wide stile applications. ADVANTEX™ also exceeds Life Safety, ADA, California Title 19, and BHMA Grade 1 requirements. A UL listed,

three-hour fire rated version is available and an optional 9-volt DC/12-volt AC/DC selectable alarm kit with LED operational display can also be ordered.

### INSTALLATION

#### Tools Required:

- Electric drill
- 1/4" drill bit
- 1/2" drill bit
- 5/8" drill bit

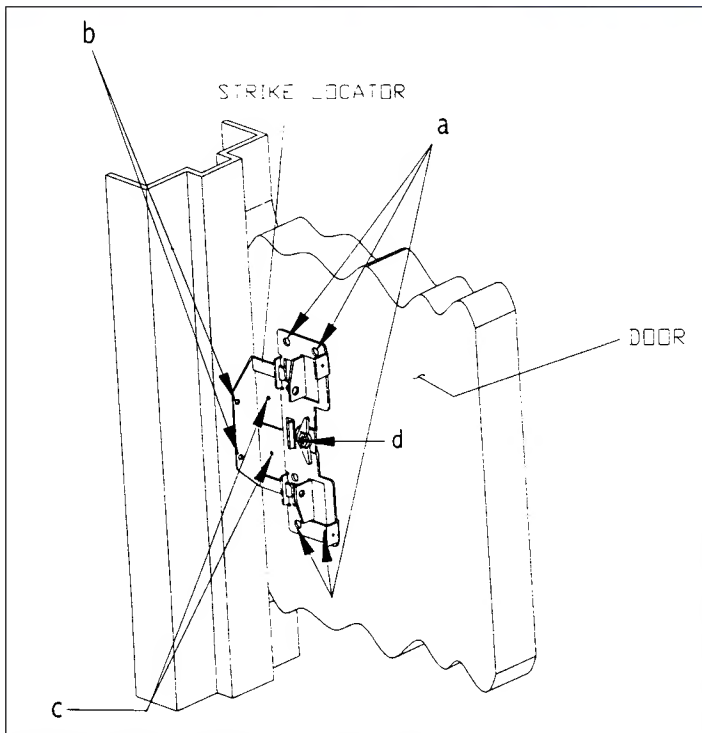
To begin, mark the door horizontally near the strike location at 40" above the finished floor. A height of 40" is recommended for most applications. Block the door in the fully closed position and attach the strike locator to the device backplate and place it on the door against the frame stop (or mullion). If the device is to be used on a door with a glass trim projection, (1/4" max.), mark the strike holes while placing the backplate on a glass bead kit (optional kit). Mark all holes in strike locator and backplate onto the doorframe and then discard the strike locator.

### Installing the Strike Locator

Drill holes at strike locations "b" indicated in *illustration 2*. Do not drill center strike hole (if provided) at this time. Install the strike loosely with two screws selected for holes "b" shown in *illustration 2*.

Drill holes at backplate locations "a" and install the backplate. Do not drill holes "c" in *illustration 2* at this time.





**2. Drill holes at strike locations "b".**

**Cylinder Dogging or Exit Alarm**

If the device has CD (cylinder dogging) or EA (exit alarm), remove the endcap and endcap mounting plate. (See illustration 3.) Remove the filler bar and remove and discard the shipping insert and nut. Loosen the two screws from the dogging assembly.

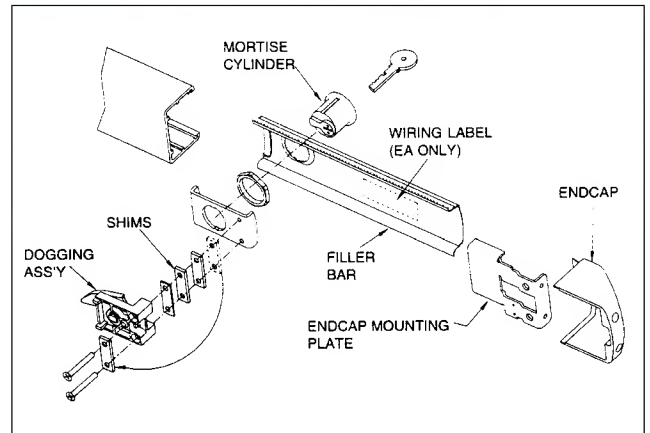
Install a mortise cylinder (not included) with large hex nut provided and trial fit the dogging assembly. If the cylinder is too short, remove the shims as necessary and reattach them under

the two screw heads shown in illustration 3. The key should easily turn in both directions.

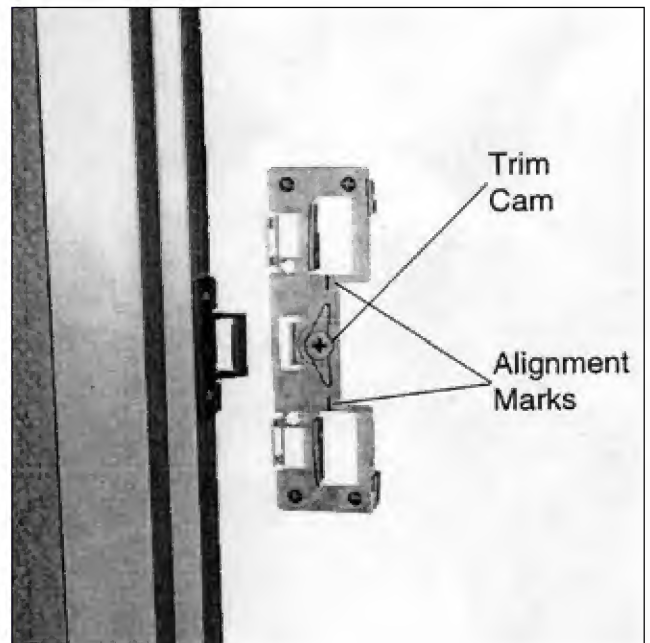
If the unit has cylinder dogging, rotate the key counter-clockwise and the assembly is complete.

**Latching Chassis**

Align the trim cam vertically with the alignment marks as



**3. Remove the endcap and endcap mounting plate.**



**4. Align the trim cam vertically with the alignment marks.**

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#ASA - 2000





shown in *illustration 4*. Depress the device pushpad to retract the latch. Insert the latching chassis into the slots while holding the opposite end out and away from the door. (See *illustration 5*.) If you feel any bind, remove the device and recheck the trim cam position.

Slide the filler bar firmly against the pushpad then slide the endcap

mounting plate into the channel as far as it will go. If the entire device is too long, it must be removed and cut before proceeding. (See *illustration 6*.)

### Endcap

Attach the device chassis to the back plate using the two 1/4-20 x 1/4" screws as shown in *illustration 7*. Level the device and mark the two holes in the endcap mounting plate onto the door. Select the screws and drill holes for the endcap then fasten the endcap mounting plate to the door.

Attach the endcap to the mounting plate with two #10-32 screws. Security screws are provided with the unit.

Latch the door in the fully closed position with the two strike screws fastened loosely. Use the shims provided as necessary for the best fit. Align the strike with the latchbolt and firmly tighten the two screws.

### Surface Strikes

If a surface strike is used, drill the center hole shown in *illustration 8*. If a mortise strike is to be used, mark and cut frame as shown in *illustration 9* and reinstall the strike.

If the device is to be used with a Fire Rated Mullion, align

a strike hook with the strike and mark holes "c" in *illustration 10*. Drill the holes marked and attach one strike hook per door leaf. Ensure that the strike hook engages the strike without interference to the latching mechanism.

Install the cover over the latch bolt and secure with four #6-32 flathead screws. There are three finishes of screws provided. The Exit alarm models are supplied with security screws.

### ALARM SETUP

Make wire connections according to wiring label on filler bar.

**Power:** This unit will operate on a 9-volt battery. However, it may be hard-wired to 12 volt AC/DC. 9-volt battery must be used to avoid "Low Battery" chirping.

**External Signal Switch:** A relay is provided and is activated when the pushpad is depressed. It will remain activated until alarm is disarmed or rearmed.

**Dip Switch 1:** Sets arm delay. If Switch 1 is OFF, the device will be fully active 15 seconds after you turn the key cylinder. If Switch 1 is ON, the device will be fully active after 60 seconds.

**Dip Switches 2 & 3:** Sets the auto-rearming feature (see *Chart 1*).

Rotate key counterclockwise and slide the completed exit alarm Filler Bar firmly into the Panic Hardware.

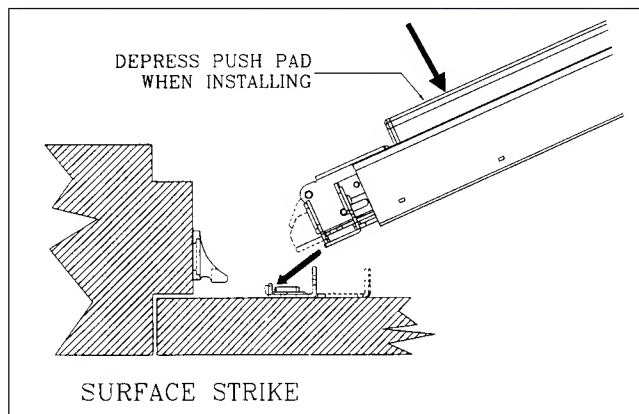
### Alarm Operations

Attach the battery to the connector. Turn the key counterclockwise and then remove key. A green LED will glow for the Arm Delay Period followed by three short chirps. Alarm is now armed.

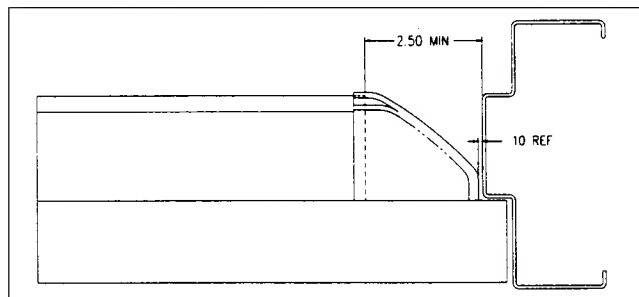
**D**epress push pad and the alarm siren will sound and the red LED will illuminate. Turn the key clockwise and the siren will stop and the red LED will turn off. Alarm is now disarmed and the red LED will double-blink at regular intervals.

**Auto-Rearm Test:** Repeat steps 1 and 2. After approximately 2 minutes (or 10 minutes), as selected, alarm will turn off siren and red LED. Alarm will then reararm as described.

**Low Battery Alert Feature:** Siren will chirp at regular intervals to signal that the battery voltage has dropped below 7-volts DC.



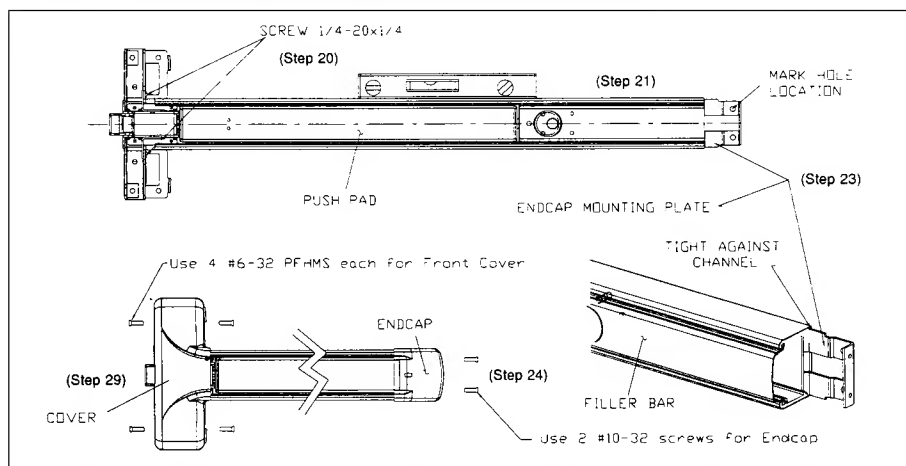
**5. Insert the latching chassis into the slots.**



**6. If the entire device is too long, it must be removed and cut.**

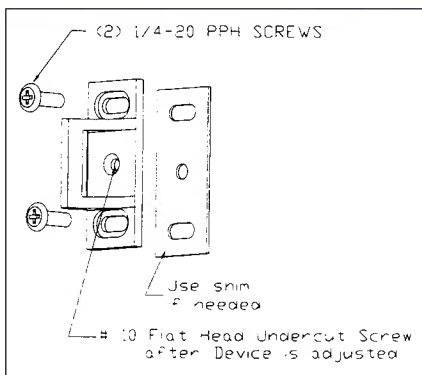
Switch 2	Switch 3	
OFF	OFF	Alarm will automatically reararm after 2 minutes
ON	OFF	Alarm will automatically reararm after 10 minutes
OFF	ON	Alarm will sound continuously until it is reset

**Chart 1.**



**7. Attach the device chassis to the back plate using the two 1/4-20 x 1/4" screws.**





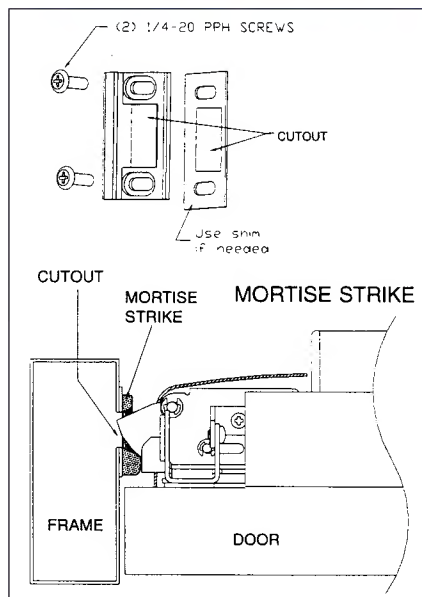
**8. If a surface strike is used, drill the center hole.**

### **Dogging Feature**

Non-fire rated devices may be dogged. While depressing push pad, turn the key clockwise and then remove key. Push pad will remain depressed and the red LED will double-blink at regular intervals.

### **TESTING THE PANIC HARDWARE**

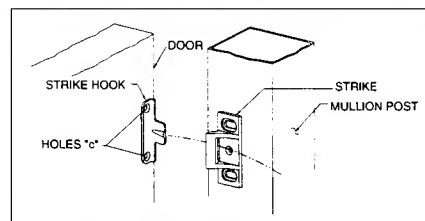
First close the door. The device should latch securely and the latch should fully project into the strike cavity. The deadlatch will be depressed. Press the pushpad and the latch should retract fully and smoothly from the strike as the door opens. Release the pushpad and the latch



**9. If a mortise strike is to be used, mark and cut frame accordingly.**

should fully project again and deadlatch should be extended.

If supplied, engage the dogging mechanism while the pushpad is depressed. The pushpad should remain depressed and the latch should remain fully retracted. Release the dogging mechanism and the pushpad and the latch should return



**10. With a Fire Rated Mullion align a strike hook with the strike plate.**

to the fully extended position.

Operate the outside trim to retract the latch. The latch should retract fully and smoothly. Releasing the outside trim should allow the latch to fully extend.

*For more information on Detex products circle 288 on Rapid Reply or contact:*

*Detex Corporation  
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 New Braunfels, TX 78130-3045  
 Phone: 800-729-3839  
 Fax: (210) 620-6711  
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## **15 Minute Safe Opening**

This book deals exclusively with round head lift out doors. Shows five ways to open a Major; three ways to find the Dog Pin on a Major; four ways to open a Star; four ways to open a LaGuard style round head.

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#JJ - 1





# ROFU

## Wireless CCTV

The system is literally “plug-and-play,” and is no more difficult to install and monitor both video and sound than a VCR or home stereo. The only wiring required is to plug one end of the supplied transformer (see photograph 2) to the nearest 110 outlet, and the other end into the camera (see photograph 3). The signal from the camera to the monitors goes through the air, not via coaxial cables. Although the basic system comes with one camera, the system can be expanded up to four cameras without purchasing an additional receiver. On the multi-camera system, views rotate every one to nine seconds, depending

an excellent moneymaker for the locksmith either as an over-the-counter sale or as an installation. A kit consists of a case for easy transport, one camera and lens, two transformers, one 4-foot cable set with RCA plugs, one camera mounting bracket, one receiver and an antenna for the camera and receiver. Additional cameras, as well as a line booster to extend the reach of cameras, are available. Rofu distributors have information on what accessories may be needed for individual packages.

The 5-inch black and white monitor features volume and brightness adjustment, as well as vertical hold and contrast adjustment. (See photograph 4.) The monitor takes up little space, measuring only 6-1/2" x 6-1/2" x 8" The color monitor with 4" LCD screen is even more compact, measuring 5-3/4" x 4-1/2" x 2" (See photograph 5.) The monitor comes with an angle stand to improve viewing and has all the same adjustments as the black and white monitor. A 12-volt DC adapter comes with the black and white monitor; it is extra on the color monitor.



1. Rofu's new wireless CCTV.

Rofu's new wireless CCTV observation system is the answer for the locksmith who wants to sell his customers on surveillance, yet runs into interference from electronics competitors who claim surveillance is their turf. (See photograph 1.)

How does the locksmith battle the static and win the business? Simple. The Rofu unit is completely wireless; negating the need for the locksmith to pull wires himself or subcontract with an electrician for the installation. Further, since it is wireless, the locksmith does not need to hassle with electronic licensing requirements which sometimes restrain locksmiths from selling CCTV security.



2. Plug one end of the transformer in the nearest 110 outlet.

upon the setting, or an operator can manually toggle between views. The operator can elect to mute sound if desired. The system can be connected to a video recorder for permanent event recording.

With a suggested list price of \$990.00 for a color camera kit and \$690.00 for a black and white camera kit, the Rofu wireless CCTV system is



3. The other end of the transformer plugs into the camera.



4. A 5-inch black and white monitor is available.

Some of the applications for the system could be the front door of a residence, the back door and cash register of a small business, or even strip malls.

In the case of residential triplexes and quads, the Rofu system can be used as a video entry system. A camera at the front and back door can transmit to a receiver placed in each apartment, allowing the residents to screen visitors at the door.

The portability of the Rofu CCTV system means that if the owner of the system moves, he can easily disassemble the unit and take it with him. Other hard-wired systems





5. A color monitor with 4-in LCD screen is even more compact.

generally are sold with a property as attached fixtures.

Cameras can transmit signals up to 300 feet away from the receiver (see photograph 6) when installed outside and 180 feet when installed inside. An optional line booster can triple transmission distance. While signals will travel through walls or other barriers, a clear line of sight from camera to receiver makes for the best monitoring.

Locksmiths can purchase the basic black and white camera kit (see photograph 7) or the color camera kit (see photograph 8). To set the unit up, an antenna is screwed to the back of a

camera and to the receiver. Remove the plastic protective cap from the black and white camera, and on the color camera screw in the lens mounting ring and the lens, being careful not to strip the threads.



7. A basic black and white camera kit is available.



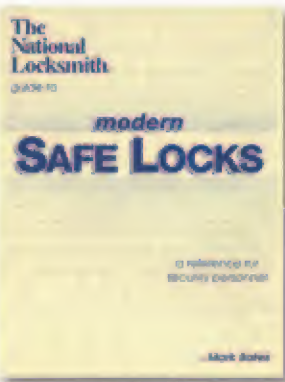
6. Cameras can transmit signals up to 300 feet away from the receiver.

The next step is to attach the transformers to the camera and receiver units and then attach the color-coded RCA cables to the receiver and monitor. (See photograph

9.) Once the transformers are plugged in, the monitor can be turned on in AV mode. Picture sharpness can be adjusted by turning the lens on the black and white camera, or by tightening the color lens with the supplied allen wrench. Assemble the camera mounting bracket (see photograph 10), and install to the desired location.

The Rofu CCTV units are controlled by an advanced micro-processor. When one camera is used with a receiver, the jumper on the

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#MSL - 1

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8. A basic color camera kit is available.



9. Attach the transformers to the camera and receiver units and then attach the color-coded RCA cables to the receiver and monitor.



10. Assemble the camera mounting bracket.

back of the camera should be in Position 1. If two or more cameras are used with one receiver, the jumper on the back of the camera should be set to the particular camera position, such as "Camera 1," "Camera 2," etc. The jumper should not be set at the number of cameras in use, such as setting "4" on all four cameras when four cameras are in use. Camera 1 should be the camera furthest from the receiver and Camera 4 the closest.

Because the Rofu CCTV system is portable, the operator can elect to

easily switch locations. Cameras can be set

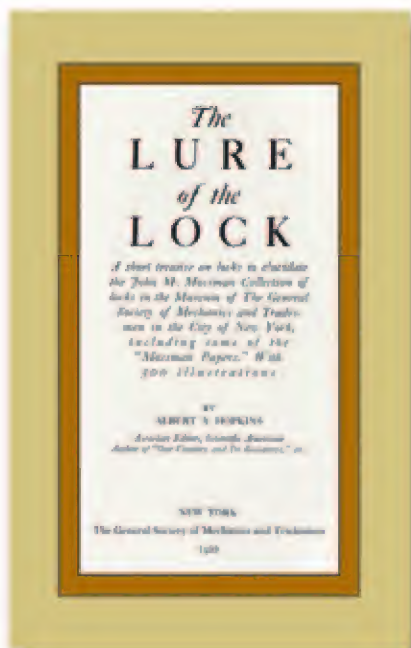
up to monitor different areas, or the monitoring area can be moved. All that is needed are 110-power outlets near the cameras and monitor.

With its ease of operation and installation, Rofu's CCTV system is making it easier for the locksmith to pursue surveillance with minimal monetary investment, yet maximum

profit potential in product margin and installation billing time.

*If you would like further information about Rofu's CCTV system, contact your distributor or Rofu International at 2004-B 48th Ave. Ct. E., Tacoma, WA 98424, phone 253-922-1828, fax 253-922-1728, or Circle #291 on Rapid Reply.*

TNL



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#LURE



# Selecting a Corrective Hinge

by Jake Jakubowski

**W**ind, wear, abuse and accidental damage, are among the causes of premature hinge failure on commercial doors. Sometimes the damage (regardless of the source) is so severe that it will require replacement of the door as well as the hinges.

*Photographs 1 & 2* are classic examples of wind damage to the hinges of the doors shown. In *photograph 1*, you can see how the hinge was virtually ripped from the steel frame and the force was strong enough to break the hinge from the door edge and snap the closer arm from the header.

*Photograph 2* shows where the bottom pivot on a narrow stile glass door was broken completely out of its mountings.

*Photograph 3*, shows (from the hinge side of the door) a rest room door that is sagging. The problem is caused by wear and tear and can easily be permanently corrected.

*Photograph 4*, shows a high traffic door that has literally been worn out. The hinges are pulling away from the door and frame and the stiles in the door have broken allowing the door to "flex".

*Photograph 5* shows a very heavy fire-rated door that was too heavy for its hinges. The door pulled away from the hinges and splintered the stiles when it did.

What do all of these doors have in common? They have all been repaired with corrective hinges. Hinges that are designed to correct sagging problems as



**1.**  
**Severe wind damage to a steel door. Note broken hinge and snapped closer arm.**

**2.**  
**The wind hit this narrow stile glass door hard enough to snap the bottom pivot out.**



**3.**  
**This door is sagging from excessive wear on the hinges.**

well as wear and abuse problems.

Since I installed each one of the hinges pictured in this article, I can vouch, first hand, for their ease of installation, the added strength they impart to the door and the practicality

and durability of the repairs. I can also tell you that installing corrective hinges is one of my favorite services to provide because my customers love the service and are willing to pay me large amounts of shekels for solving door problems for them.



*Photograph 6*, shows me preparing to drill the first holes that I will need to install a Brookfield Industries JU-5 Hinge Kit on the narrow-stile glass door I mentioned earlier.

*Photograph 7* shows the three holes in the jamb side of the door frame and *photograph 8* shows a JU-5 installed. *Photograph 9* shows the installed hinge with the “security” strips over the screws. Two hinges for each door (it was a set of double doors) and about an hour’s time and the job was complete. No more broken hinges and doors that are working well under the demands of a thousand plus openings a day!

*Photograph 10* is of a Markar Full Surface Reinforcing Pivot Hinge (B1923 RH) for flush doors. This hinge is a 4-1/2” hinge, which comes with all the necessary mounting hardware. It is capable of supporting a 300-pound door and exceeds ATSM 156.1 specifications.

I have installed dozens of these hinges both on exterior and interior doors over the years and have found them to be durable, easy to install (about thirty minutes), profitable and a great way to correct a sagging door. If this hinge has any drawback at all, it is the fact that they are handed. I usually keep two or three of each on my truck, since I never know when I going to need one.

*Photograph 11* shows Stanley Hardware’s Pivot Reinforced Hinge (Part 225R) which, in essence does the same thing as Hagar’s B1923. The primary difference is that the Stanley hinge is none handed and consequently can reduce the inventory you need to carry since one hinge will work either LH or RH.

I chose the Stanley for this particular application because the top plate of the hinge had to go under a piece of trim molding (see *photograph 12*) and the Markar’s pivot screw stood too high to allow me to reattach the molding properly. I now try to keep at least one Stanley hinge on my truck for when I encounter that special application where only the Stanley hinge will work.

If you look back at *photograph 4* and read the caption, you’ll note that I said the door was “worn” out. Believe me, it really was. Consequently, my customer wanted a new door hung and because this door was an extremely high traffic opening and they wanted a door



**4.**  
This door is completely worn out. Even the stiles are broken allowing the door to “flex” horizontally.

**5.**  
This door was just too heavy and had too much traffic. Note how the stile was splintered when the hinge pulled out.

**6.**  
Drilling the first of three holes in the jamb to accept a Brookfield Industries JU-5 replacement hinge.



**7.**  
The three holes in the jamb.



**8.**  
The JU-5 in place.



**9.**  
The completed installation.



**10.**  
A Markar B1923RH full surface Reinforcing Pivot Hinge installed.





and hinge system that would last. I chose Select Products SL-57HD full surface hinge for the job.

The SL-57HD is designed for demanding applications like school and hospital entrances. I have also found that they perform well on the delivery driver's doors of pizza delivery operations. This is one tough hinge and when properly installed is there for the long haul.

Select Products claims that in conjunction with a heavy-duty closer, the full-surface SL-57HD will support doors in excess of 450 pounds through more than a half a million cycles per year! What I can tell you is that of the thirty, or so, SL-57HD's that I have installed over the last five or six years, I have not had a single call back for a hinge failure.

*Photograph 13* shows my son Kelly installing the security cover on the door leaf of the hinge prior to hanging the door. *Photograph 14* shows the completed installation, which took Kelly and me about an hour and a half to do.

It's difficult to see in the photograph but on the jamb side of the hinge, there is another security cover, which prevents access to the mounting hardware. If the door is not open, there is no way for a thief to remove the hardware and open the door unless they destroy the hinge or the door.

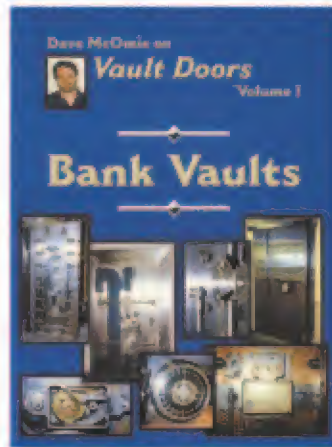
*Photograph 15* shows the completed Select Products installation on the heavy fire-rated door that I showed you in photograph 5. This is a door that is also opened hundreds of times a day.

If you have a customer that needs to fix a tough door problem and a corrective hinge is called for; or, if you're hanging a new door for a customer, then I wouldn't hesitate to tell you to recommend Select Products SL-57HD. Why? Because it's rugged, is easy to install and will outlast (in my opinion) the door that it is installed on. And, like I said, I've got thirty or more of them in service without one call back for a hinge failure!

The next corrective hinge that I want to show you is called a Half-Surface Butt. Parker Hardware sells it under part B1138PC4HN. It is a 4-1/2" Half-Surface Template Butt. McKinney/Essex carries a similar hinge under part TA2772. (See *photograph 16*).

The interesting thing about these hinges is that they are very versatile. They can be used singly to correct the sagging of a door, in pairs to realign a door after removing the defective hinges

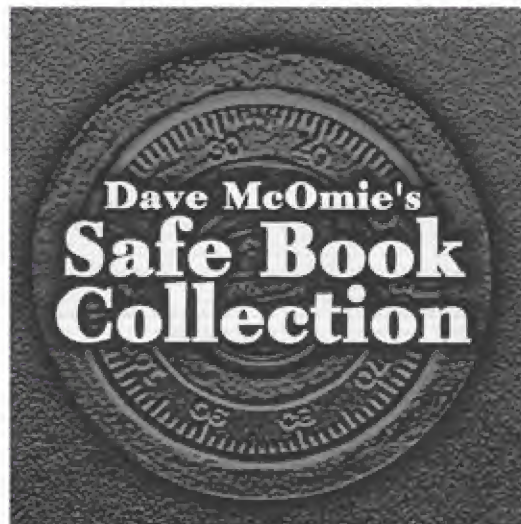
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and fit the ANSI hinge prep on commercial doors for a 4-1/2 butt. And, as you can see in *photograph 17*, they are non-handed.

To install this hinge, simply remove the old hinge from the door and frame and install the Half-Surface Hinge as shown in *photograph 18*. Realign the door, lay the surface portion of the hinge against the door, as shown in *photograph 19*, drill three through holes for 1/4" x20 grommet nuts and bolts (the mounting hardware is supplied) and install the bolts and nuts.

*Photograph 20* shows the bolts installed. Note that I drilled out the head of the bolts to prevent someone from unscrewing them. This was in addition to "pinging" the stub of the bolt where it protruded from the grommet nut on the inside of the door.

*Photograph 21*, shows the top and middle hinge on this new door installation. This is the first time I ever used these hinges to install a new door, but the customer did not want to pay to have a SL-57HD hinge installed so they selected the half surface hinges. As of this writing, this door and these hinges have been in service for about three years with no problem. I would imagine they should give the customer several more years of trouble-free service before they need repair or replacement.

The door that you service locks on are the very doors that are in need of corrective hinges and even door replacement. Much of the cause of damage to the door hinges and closers is wind damage, or abuse. An easy way for you to score points with your customer and put some extra shekels in your pocket is to suggest ways to prevent the damage from happening. One way is to install Shock Arrestors. An easier way is to suggest installing an Ives Crash Chain like the one shown in *photograph 22*.

These crash chains take up the shock of a sudden gust of wind or an irate employee trying to slam the door back against the wall. Best of all, they are easy to install and the customer is willing to pay you accordingly.

I recognize that corrective hinge work won't appeal to all of you, but for those of you who are willing to look at the "whole door" rather than just the lock that you are rekeying, it will open a whole new market for you. If you want more information on the products I've shown you in this article, contact your favorite distributor or call the

**11.**  
**The Stanley 225R installed.**



**12.**  
**Trim molding placed over the 225R.**



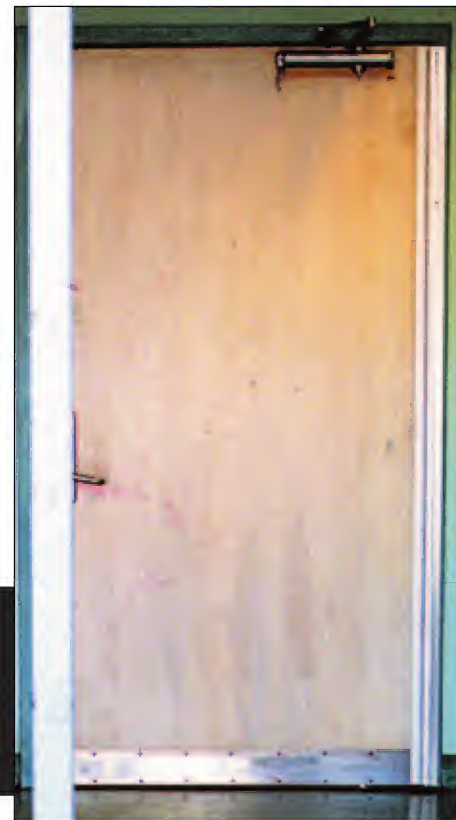
**14.**  
**The SL-57-HD completely installed on a steel door.**



**13.**  
**My son is securing the security cover on Select SL-57-HD.**



**15.**  
**The SL-57-HD completely installed on a fire-rated door.**





**16.**  
S. Parker's and  
McKinney/ Essex  
half surface  
hinges.



**17.**  
These hinges  
are non-handed  
and can be used  
in both LH  
and RH  
configurations.



**18.**  
The hinge fits a standard  
4-1/2" prep.



**19.**  
The  
"half-  
surface"  
portion  
bolts to  
the face  
of the  
door.



**20.** Three grommet  
nuts and three 1/4" x  
20 bolts fasten the  
hinge to the door.



**21.**  
After  
three  
years the  
door is  
still  
securely  
held by  
the half  
surface  
hinges.



**22.**  
A crash  
chain will go  
a long way  
to helping  
prevent  
damage to  
commercial  
doors.



manufacturers listed below for a distributor near you.

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#DIS - 2000



# The Marks Survivor Series Key-in-Lever Locksets

by Sal Dulcamaro, CML

**T**he Survivor Series by Marks is one of a number of different key-in-lever locksets available from lock manufacturers that use a clutch device in the exterior handle. Most lever handle equivalents of existing knob locks have already undergone the adjustments of additional handle return springs and other reinforcements of the hardware. Those changes have been made to reduce lever breakage and because the lever handle, which is designed to give easier access to the disabled, gives easier access to the burglar. The built in leverage of the handle assists a would-be thief, without the need of a wrench or other tools to apply force when attempting a break-in. A clutch device allows force to be applied to the handle, but doesn't allow the same

force to be transferred to the actuating mechanism of the lock to allow entry.

*Photograph 1* shows a side view of the lock chassis with the outside rose to the left and the inside rose to the right. The additional return springs are contained within the roses, and provide additional force to overcome gravity and minimize the likelihood of the handles sagging. Like many other lever handle locksets, additional mounting bolts are required. You can see two such thru-bolts, one above and below the chassis. They are spaced 2-3/4 inches apart and require 5/16 inch holes for installation.

## Lock Installation

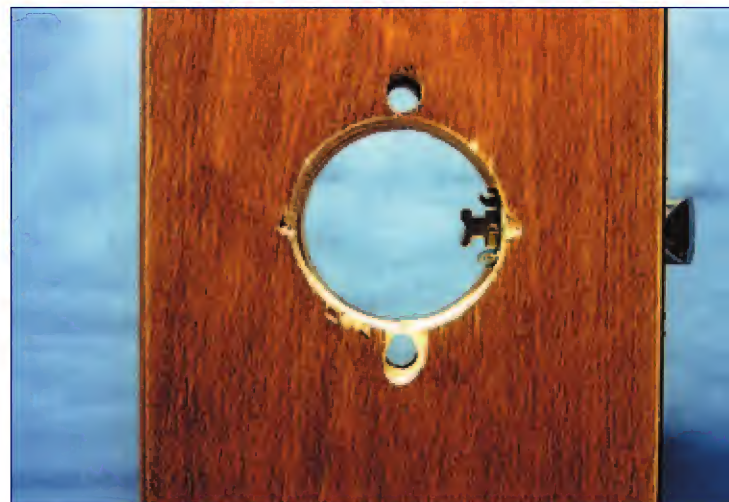
Often, you will have a retrofit situation where you will be replacing a knob with a new lever handle lock. In

that case, you will already have the main 2-1/8 inch diameter cross bore hole already in place. If this is an installation in an unprepped door, you will have to use your installation jig, or (if you prefer) use the paper template and drill free hand.

The additional mounting holes, for the thru-bolts, can be drilled free hand or with an installation jig. If you use the included paper template, you can mark the centers for the holes and then use a punch to create a starting point for your drill bit. A number of companies make special installation jigs for drilling those holes. Marks makes one of its own. The (optional) Marks J295 Installation Tool is designed to insure that those holes are drilled accurately.



1. The Survivor Series by Marks.



2. The lock mount already has the latch installed.





3. The lock partially attached to the mount.



4. The inside rose should be attached on the inside surface of the door.



5. The thru-bolts are being attached.



6. The cover is then pressed over the inside rose with the notches lined up with the slots on the rose.

7. The plastic washer can be seen in the center of the inside rose.



The lock mount shown in *photograph 2* already has the latch installed. The holes for the thru-bolts have also been drilled. The lock comes partially assembled in the box, so you will need to have already removed the inside lever handle and rose before you can proceed to install the chassis onto the lock mount. *Photograph 3* shows the lock partially attached to the mount. The latch retractor must properly interlock with the latch, and the rose posts must go through the two 5/16 inch holes (above and below the main cross bore hole). The outside rose should fully contact the outside surface of the door (lock mount).

The inside rose should be attached on the inside surface of the door, as in *photograph 4*. I am pointing to the spring-loaded retainer that normally holds the lever handle from coming off. The motion of sliding the inside rose over the inside lock tube and pushing it forward will compress the retainer and cause the rose to catch. If

you wish to take it back off, you will need to compress the retainer, which will allow it to back off over the retainer. The thru-bolts are being attached in *photograph 5*.

A “stepped” plastic washer should be seated in a circular groove on the surface of the inside rose. The cover is then pressed over the inside rose with the notches lined up with the slots on the rose, as in *photograph 6*. The notches should be positioned at 9 o'clock and 3 o'clock in relation to a clock face.

The plastic washer can be seen in the center of the inside rose in *photograph 7*. The inside lever has been slid part way over the inside lock tube. The handle can be pushed inward until it catches onto the retainer within the inside lock tube, as in *photograph 8*. The motion of the inside handle and the latch should be tested to make sure everything operates smoothly. You can see the

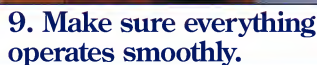


8. The handle can be pushed inward until it catches onto the retainer within the inside lock tube.

latch retracting, in *photograph 9*, as the inside lever is pushed downward.

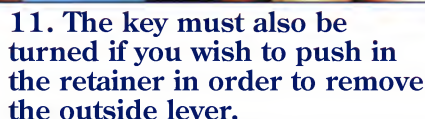
The Survivor Series locks are available in entrance, storeroom and classroom functions. The one I installed had the storeroom function. The clutch mechanism will cause the outside levers to operate differently





depending on the lock function. Since a storeroom function lock does not allow access, except with a key, moving the outside lever should never engage the latch. *Photograph 10* shows the lever being pulled all the way down and the latch is unaffected. Turning the key, in *photograph 11*, causes the latch to retract. The key must also be turned if you wish to push in the retainer in order to remove the outside lever. The wire pin tool can be seen pushing in the retainer in the access hole at 3 o'clock.

An entrance function lock would have the clutch engage the latch



mechanism when it was unlocked. When the button is pushed in and turned, the clutch mechanism would disengage from the outside lever and allow the handle to turn without retracting the latch. The classroom function lock would behave similarly, except that locking and unlocking would take place by using the key. There is no turn button on the inside for a classroom function lock.

**T**he 195 (Survivor) Series locks are heavy-duty grade 1 locksets, and come with a Schlage "C" keyway. The 2-3/4 inch backset is standard, but they are also available with a 2-3/8 inch backset latch. Beside the entrance, storeroom and classroom function with the standard keyed cylinder, they are also available in IC versions.

*For more information on Marks  
products circle 289 on Rapid Reply  
or contact:*

*Marks USA Inc.*

5300 New Horizons Blvd.

*Amyville, NY 11701*

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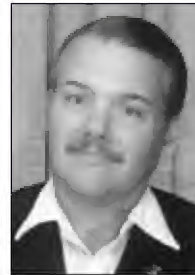
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#BB - 01



# BEGINNER'S CORNER

## The Determinator



by  
**Jim  
Langston**

This month's article is a pleasure to write because I have come across a tool that can determine what the cuts are for an automobile door lock without pulling a door panel or taking the lock apart. This tool is a real time saver. The tool is called "The Determinator." (See *photograph 1.*)

The Determinator is a specially designed key. It has a special "trap"

piece of spring steel inserted along the milled slot in the tool is used to release any trapped tumbler.

Spaces that did not get trapped are obviously either a 1 or 2 depth tumbler. The ones trapped are either a 3 or 4.

Once you have used the tool in the door and have your depths and spaces recorded, you can cut a try-out key by

Determinator gives us two choices on originating a key for this van.

The first choice is by using the Determinator stamped 6, 7, 8, 9, 10 to decode the door lock. The first thing



**1. The Determinator.**

that will catch certain size tumblers. It works by trapping larger tumblers and by passing smaller ones. For example, a lock that uses four tumbler depths (1-2-3-4) is easy to decode. The Determinator will "trap" the 3 and the 4 depth tumblers, but it will "pass" the 1 and the 2 depth tumblers.

Stamped on the side of the tool are clearly stamped spacing numbers. These numbers correspond to the tumbler space location in the lock. The space number closest to the face of the lock indicates which space that the "trapped" tumbler is located in. A

using 1/2 cuts. The spaces that had a trapped tumbler would be cut as a 3-1/2 depth, and the spaces that passed would be cut as a 1-1/2 depth.

Once a key of half cuts that will operate the lock is established, simple impressing skills are then used to determine the correct full depths.

### Decoding a GM 10-Cut

Let's talk about decoding a door lock on a 10-cut GM.

The vehicle we are going to decode is a 1999 Chevy Astro Van. The



**2. The first thing you need to do is lube the lock.**



**3. These numbers determine the spacing location of the tumblers.**

you need to do is lube the lock as seen in *photograph 2.*

Now insert the Determinator into the door lock. In *photograph 3*, you can see the space numbers clearly stamped on the side of the key. Slowly





**4. Insert the release tool in the groove on *The Determinator* to release the trapped tumbler.**

pull the Determinator out with a slight left/right motion. When you trap a tumbler, look at the number closest to the face of the lock to determine what space you are on. For example, let say it is 7. You now know space 7 is a 3 or a 4 depth tumbler. Keep track of which spaces trapped.

Now you can insert the release tool as seen in *photograph 4* to release the trapped tumbler. Once you have



**5. Turn the Determinator over and decode the tumblers on the bottom of the lock.**

decoded the topside of the lock, turn the Determinator over and decode the bottom side of the lock. (See *photograph 5*.)

Once you have finished decoding both sides you can cut a key. All spaces that trapped a tumbler you will cut as a 3-1/2 depth. Any space that was passed you will cut to a 1-1/2 depth.

Attach your impressing tool to the key and insert the key into the lock and turn in both directions, see

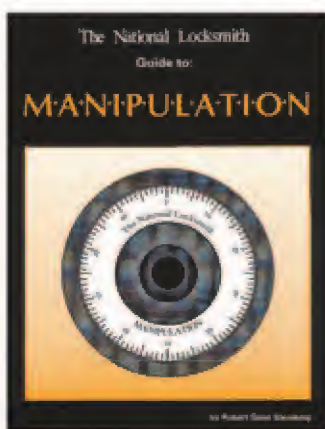


**6. Attach your impressing tool to the key and insert the key.**

*photograph 6*. In doing this it will leave marks on the spaces that need to be cut deeper. You can use your file or code machine to do this.

Understand now that you will cut a new key to the exact depths that you have determined. Once you have an operable door key you can follow the

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#MAN - 1

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#SUB - 1,2,3,4,5,6





**7. Take a screwdriver and pry off the "ears".**

progression charts provided to finish the remaining spaces for the ignition.

Remember I said we had two choices for originating a key for this vehicle. Our second way to go on this van is to use The Determinator Wave Keys.

The wave keys are designed to "pick" the ignition "On" to remove it and get the key code. To do this you must take a screwdriver and pry off the "ears" of the ignition. They come off pretty easy and snap right back on. (See *photograph 7.*)

Insert a pick at the 8 o'clock position between the lock housing and

the sidebar. Once you are aligned with the sidebar you can now insert one of the wave keys. Apply pressure to the sidebar with the pick, and try to turn the ignition on by wiggling the wave key left and right and in and out. Repeat these steps on both sides of each key until you get one that turns the ignition on.

Once the lock is turned to the "On" position put the vehicle in gear without starting it. This will prevent the engine from cranking when you turn the ignition to the start position to remove the cylinder. (If it is a standard transmission, make sure it's not in gear and do not hold the clutch

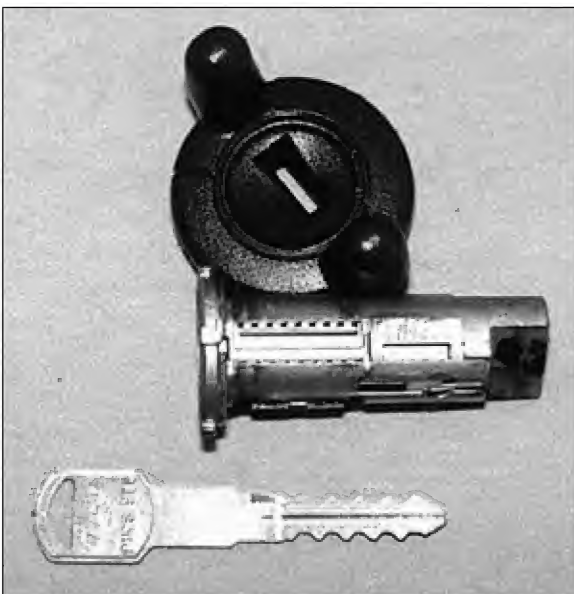


down when you turn the ignition to the "start" position.) Always have the parking brake on.

Hold the ignition in the start position, and insert an "L" shaped probe tool at the 12 o'clock position. Using a probe light will assist you in finding the retainer. Depress the retainer and pull the cylinder out. On the back of the cylinder you will see the code number for the ignition as seen in *photograph 8.* Now you can cut your key.

Once the key is cut you can snap the ears back on the ignition and insert the lock back into the housing as seen in *photograph 9.*

There are 17 different Determinators, covering many makes

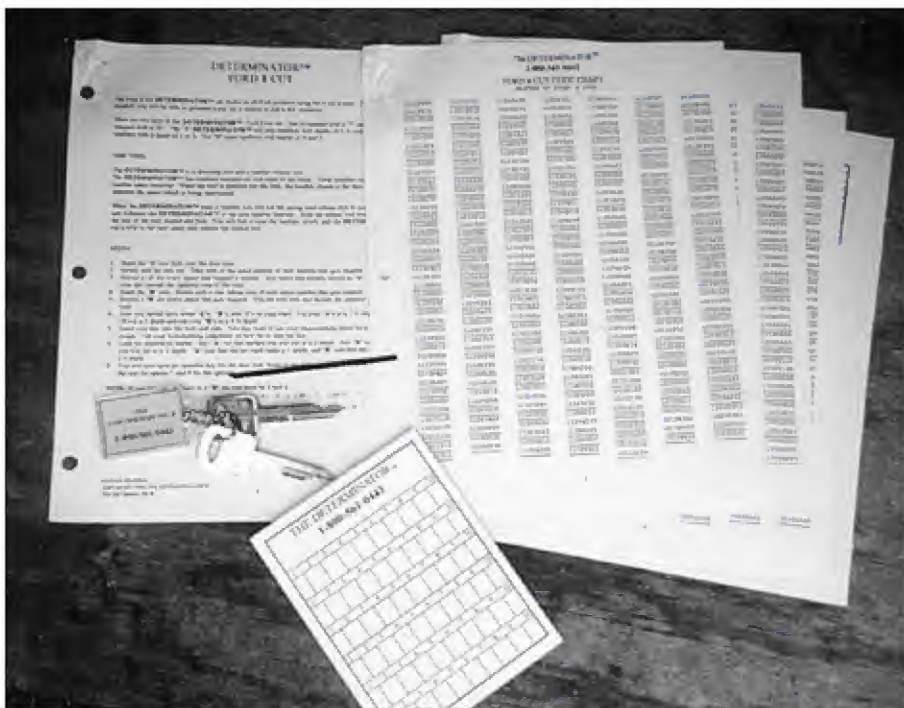


**8. On the back of the cylinder you will see the code numbers for the ignition.**



**9. Insert the decoded lock back into the housing.**





**10. The Ford 8-cut Determinator set.**



**11. 1996 Ford Explorer that needs a key.**

and modes. They will use the same basic principle and each comes with its own instructions. Next I will cover making a key with The Determinator to a Ford 8-cut.

#### **Ford 8-Cut Determinator**

The Ford 8-Cut Determinator uses two tools.

One is stamped with a "3". It will trap tumblers that are a 3, 4, or a 5 depth. It will pass the tumblers that are a 1 or a 2 depth.

The other tool is stamped with a "B". It will trap tumblers that are a 4 or a 5 depth. It will pass the tumblers that are a 1, 2, or 3 depth.

In *photograph 10*, you can see the two Determinators, the instructions, chart pad, and the special code chart to help find the ignition cuts.

Let's make a key for a 1996 Ford Explorer. (*See photograph 11.*)

The first thing to do is to lubricate the lock and run a blank in and out a few times.

Insert the "3" Determinator into the lock. (*See photograph 12.*)

Slowly pull the Determinator out, with a slight left/right motion. When the Determinator traps a tumbler, take note of the space number. The number closest to the face of the lock is the space number that is trapping a tumbler. Take note of this space and record it on your chart.

Insert the release tool, and proceed to the next space. (*See photograph 13.*) Make sure you do both sides of the lock. Every space that trapped a tumbler with the "3" Determinator



**12. Insert the "3" Determinator into the door lock.**



**13. Use the release tool to release any trapped tumblers.**

write a 3 in that particular space. Any tumbler that was passed is a 1 or a 2 tumbler. Record an "A" in those particular spaces. In this case we had the following:

Space: 1-2-3-4-5-6

Cuts: A-3-A-3-3-3

Next we use the "B" Determinator. Insert into the lock and slowly pull out with a slight left/right motion. (*See photograph 14.*) Any tumbler that





**14. Insert the "B" Determinator into the door lock.**



**15. Keep track of your findings on the chart.**

traps with the "B" Determinator you will change the current "A" to a "B" on your chart. Remember that the "B" Determinator is trapping the 4 and the 5 depth tumblers.

Use the release slide to release any trapped tumblers and do both sides of the lock.

When we were finished decoding the lock we now had the following. (See photograph 15)

Space: 1-2-3-4-5-6

Cuts: A-3-A-3-B-B

Now we are ready to cut a key. The spaces that have an "A", will be cut as a 1-1/2 depth. You know that they are either a 1 or a 2 depth tumbler.



**16. Turn the key back and forth and check for impression marks.**

The spaces that have a "3" will be cut as a "3" depth. You know that they are a "3" depth. The spaces that have a "B" will be cut as a 4-1/2 depth. You know that they are either a 4 or a 5 depth tumbler.

Insert your key into the door lock, and turn the key back and forth. (See photograph 16) You may want to use your impressioning pliers for a little more torque. Look for impression marks on each space. Any space that has a mark you will lower to the next depth. Spaces that did not mark you will cut higher.

On our key space 3 and 6 left a mark. So we cut space 3 as a 2 depth and space 6 is a 5 depth. The other spaces did not mark. So the 1-1/2's that did not mark we will cut as a 1 depth, and the 3 depths we will leave as 3's. We ended up with:

Space: 1-2-3-4-5-6

Cuts: 1-3-2-3-4-5

We tried this key in the door and it worked great.

Now all we had to do was look up our known cuts from the door on the special chart.

Our cuts are 1-3-2-3-4-5.

The chart says that the only remaining cuts in the ignitions are either a 3-5 combination or a 4-4.

We cut a 3-5 and it worked!

We had a working key in no time at all without pulling a panel or taking apart a lock. It's the only way to go.

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#DLE



# Quick Entry

## UPDATE

by  
Steve  
Young



### MITSUBISHI MONTERO SPORT

**T**he Mitsubishi Montero Sport was introduced in the 1997 model year. (See photograph 1.) Even though it was not a direct replacement for the older Montero model, sales of the Montero Sport have been so strong that it has virtually replaced the older design. However, you need to be aware that the older style, full-sized Montero is still being sold in limited numbers. The two vehicles use essentially the same locks, but require totally different opening procedures. For this reason it's always a good idea to make sure that you know which vehicle you are dealing with before you start the job.

To unlock the Montero Sport, begin by wedging open the door directly above the outside door handle and insert an inspection light. (See



1. 1998 Mitsubishi Montero Sport.



2. The long end of the TT-1003 tool is used to unlock the Montero Sport.

#### Quick Reference Guide:

**Vehicle:** Mitsubishi Montero Sport 1997 - 1999

**Direction of Turn (passenger side):** Counter-Clockwise

**Tool:** TT-1003 (long end)

**Lock System:** 8-Cut Mitsubishi - Plate Tumbler (Wafer Tumbler)

**Code Series:** E5001 - 7679

**Code Location:** Passenger side door lock

**Key Blank:** Ilco X176, Silca MIT8, Curtis / Ilco EZ MIT1

**Bitting:** Ignition 1 - 8, Doors 1 - 8, Glove Box 5 - 8 (if present)





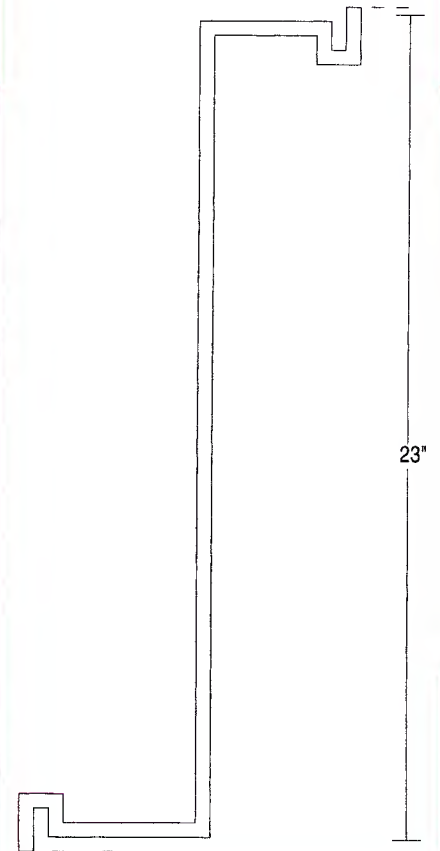
**3. The diagonal linkage rod is located about two inches below the outside door lock.**

**4. Grasp the lower linkage rod with the tool.**



**5. Move the linkage rod forward by levering the top of the tool toward the rear of the car.**

#### TT-1003 TOOL



**A The Tech-Train 1003 Tool.**

*photograph 2.)* Visually locate the two diagonal linkage rods inside the door cavity. The rods will be located about two inches below the level of the outside door lock. *(See photograph 3.)* The lower of the two rods will be the inside lock control linkage rod. Once you have located the rods, insert the long end of the Tech-Train 1003 tool *(see illustration)* into the door and lower it until you can place the tip of the tool between the two linkage rods. Slip the hooked end of the tool over the lower linkage rod and then twist the top portion of the tool in order to bind the linkage. *(See photograph 4.)*

To unlock the truck, lever the linkage rod forward by moving the top of the tool toward the rear of the truck. *(See photograph 5.)* **TNL**



# HAYMAN SQUARE DOOR FLOOR SAFE

by  
Dale W. Libby, CMS



Occasionally you will encounter a safe door that is not listed in McOmie's books. When this occurs what's a safeman to do? The answer is to use logic to solve a relatively minor problem. The safe or chest in question was made by the Hayman Safe Company.

of the safe door. Again, not a very good position.

In *photograph 3*, the lock is in a good position to work in the safe head. The lock is mounted Vertical Down (VD). The position of the lock is critical to know the exact position to

drill and to determine the drop-in. I prefer to drill at the drop-in position because if something is wrong with the lock, the cam or lever can be compromised through this same hole.

When using the lock case as a template, it is important to note that the lever is reversed or a mirror image. I use the lock template to determine the lock handing only. Everything in the lock will be in a mirror image position from what you see in *photograph 3*.

I drilled a hole at 7/8-inch out from the spindle center at about #73 on the dial. This was the perfect hole to view the edge of the wheels and the lever fence. There was a 1/4-inch hardplate that a StrongArm drill made short work of.

There are 3 bolts that lock this safe head into the cut out of the safe. *Photograph 4*, shows the bottom bolt blocked by the end of the S&G combination lock. There are two long bolts, top and bottom, with a short bolt in the center. The anti-punching angle iron can be clearly seen to the left of



**1. Templating the safe door with a combination lock mounted Horizontal Left (HL).**

To help figure out the correct position of the lock handing, I use an old lock as a template. It seems to work better than a magnetic template, at least for determining handling of the combination lock.

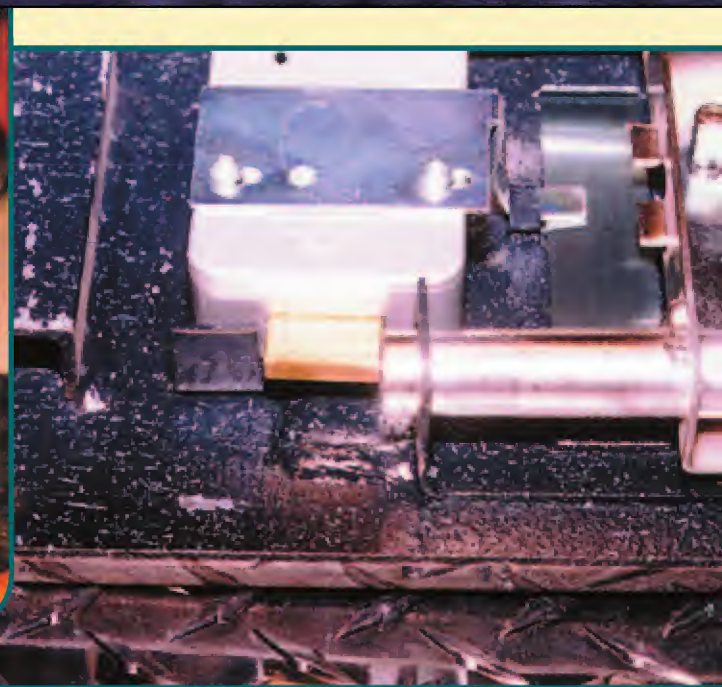
*Photograph 1*, shows me using an S&G combination lock with spindle and drive cam. Inserting the spindle to center the lock, we position the unit in the Horizontal Left (HL) position and we see that the bolt is too close to the handle. This is not a good bet on how the lock is mounted.

In *photograph 2*, we can see the centerline of the lock is above the centerline of the door, or is offset to the top. We place our template lock in the Vertical Up position (VU) and see that the bolt would stick out the edge



**2. In the Vertical Up (VU) position, the edge of the bolt would be sticking out the edge of the door. Not a good choice.**





**3. In the Vertical Down (VD) orientation, we have the best bet for the inner-mounting configuration.**

note

the bolt.

Jumping slightly ahead, we can also see the relocker plate which holds the spring steel relocker bridge plate in place. It is attached to the cover screws of the lock and has a finger extension that keeps the spring steel flat when the cover is on. More on this soon. Just

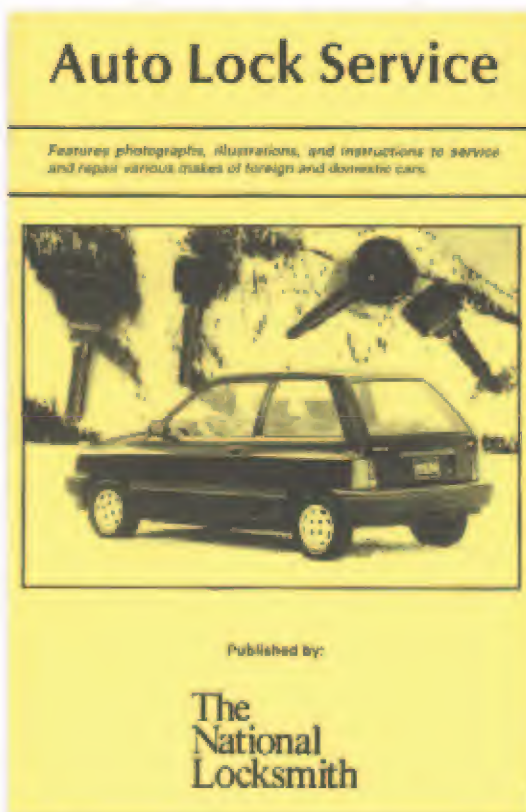
the position the arm is in.

*Photograph 5*, shows the bolts withdrawn with the combination lock bolt in the unlocked position. The relocker spring was pushed down by hand to let the bolts move to the

**4. The tri-bolt safe door is locked by the edge of the combination lock. Opposite the bolt is a piece of steel to keep the bolt from being driven open by side punching.**

unlocked position.

The opening sequence for this safe consisted of pulling the dial, determining the handing of the lock, and drilling for the lever and wheel edge. The total time to open this unit was under 15 minutes. It was an



#ALS - 1

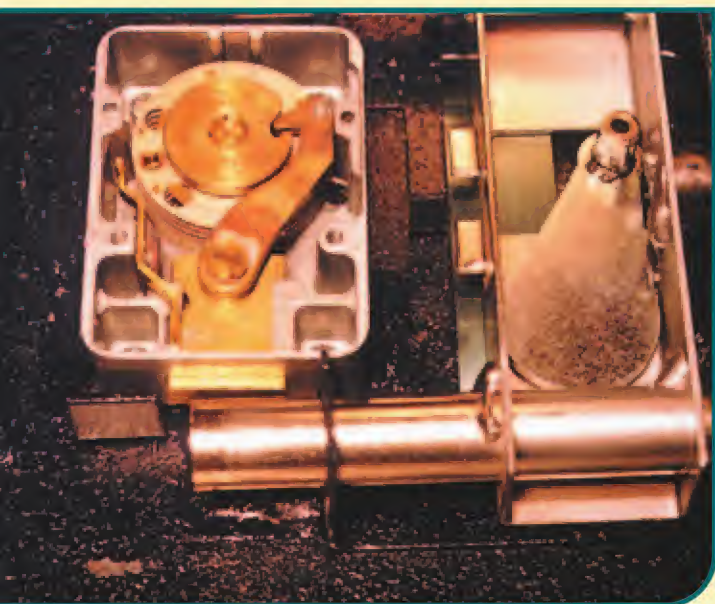
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**5. Safe head in the open position with bolts withdrawn.**

emergency opening due to a death. The family did not want the safe door repaired.

In *photograph 6*, we see two views of the relocker spring. One from the top and one from the side. When activated the spring steel band pops out and blocks the bolt bar. To deactivate this, just drill between the handle and lock. It is all soft steel. Only the lock body is protected by the 1/4-inch hardplate.

It would be easy to hook the spring steel and pull it toward the door face, or if that did not work, you can try punching the spring steel into the safe. There are a couple of protrusions

to keep you from doing this.

If this particular safe was punched before you arrive, then you must deactivate two relockers, the spring steel band relock device and the S&G relock trigger within the lock.

*For more information on Hayman safes contact:*  
*Hayman Safe Company*  
1295 N. S.R. 426  
Oviedo, FL 32765



**6. Top and side view of set relocker spring steel bridge. It must be punched out of the way, or drilled and hooked to get the bolts in the open position.**



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#TNL - CD1





**BWD KWIKIT WINNER:  
 VATS Resistance  
 Number  
 Conversions**

From time to time I find it expedient to get GM key codes through a local dealer. I do this because I have not been able to get GM to release key codes when the current owner is a used car dealer. When I receive the code, the VATS number is often also in the code. I have successfully used the following conversion list that I received from a Chevrolet dealer. This chart may be valid only for the 1098AV keyway; a different set of codes may be in use for the double-sided keys (*see Chart 1*).

I hope that this will be useful to others.  
*Raiford Ball  
 Tennessee*



**AERO LOCK TRY-  
 OUT KEY SET  
 WINNER:  
 Making A GM Pick  
 Key**

Enclosed is a simple tip about picking door locks on the GM 10-cut lock systems. I make a pick key from a GM 10-cut blank (P1106). The pick can be made with an HPC code machine, a clipper, or with depth keys. I leave a number 1 cut in the 10th position on one side. Cut the 9th, 8th, 7th, 6th, and 5th positions on the same side to a number 4 cut. (*See illustration 1.*)

On the other side, cut a number 4 cut in the 10th space and the 8th, 7th, 6th, and 5th space. Leave the 9th space on this side as a number 1 cut.

I have found that my pick key will pick the GM 10-cut door lock nearly as quick as using the original key. The wafers are opposing and true double-sided, three on one side and two on the other. The practical application of the pick means that one side of the key picks three wafers and the other side of the key has to pick only two wafers.

VATS #	Chevrolet	Oldsmobile	Pontiac '93-'95	Pontiac'96-'98
1	None Used	None Used	None Used	None Used
2	CN	CN	CN	YT
3	FW	FW	FW	B
4	GP	GP	GP	EJ
5	KA	KP	KA	UR
6	N5	N5	N5	Q3
7	UN	UN	UN	KH
8	XB	XB	XB	ZB
9	GA	GA	GA	QM
10	NP	NP	NP	YJ
11	FY	FY	FY	JH
12	C5	C5	C5	ZR
13	XY	XY	XY	KM
14	KB	KB	KB	ET
15	UW	UW	UW	U3

**Chart #1.**

## Jake's Tip of the Month...

### Removing A Stubborn 8 Line

Removing a Sargent 8 Line key-in-knob sets from doors can sometimes be a tricky proposition when the retainer spring is depressed and the retainer will not drop into the spindle and release the knob from the spindle. This condition is caused by either a malfunctioning (usually bent) spring or the retainer is "frozen" in place by corrosion. Also, it may be impossible to depress the spring because corrosion has built up under the spring or the spring has been damaged.

For those of you that have never encountered a Sargent 8 Line, you can usually identify them by the fact that there is no "poke" hole on the shaft of the inner or outer knob. Actually, there is no external poke hole! You have to unscrew the rose to access the retainer spring.

Normally, to release the knob, you loosen the outer rose until you can access the retainer spring, depress the spring, pull on the knob and the knob and spindle will come out of the chassis of the lock. When the knob does not release, most folks (I've been there and done it!) keep pushing harder on the spring. Then, they resort to whatever means they think will get the knob off.

Here's the easiest way that I have found to remove a stubborn knob from a Sargent 8 Line (this trick will work on the old Sargent Integra as well).

First, unscrew the outer rose as far as possible. It will help if you loosen the inside rose as much as you can, as well. Then drill as small a hole (1/8") into the body of the lock at the 12 o'clock position (at the very top of the spindle housing. Very carefully drill this hole through the lock housing until you break through the casing and expose the retainer then stop.

Next, simply depress the retainer with a thin, stiff poke tool and pull the knob out of the chassis (If the retainer is "frozen" from corrosion, it may be necessary to squirt a little WD-40 on it before trying to depress it). The hole can be repaired with any high quality, quick-setting epoxy material and the lock reassembled after performing whatever service, necessitated removing the lock to begin with.

If you happen to have an old 8 Line laying around, try this little trick and see if it doesn't work well enough to keep you from destroying the next stubborn 8 Line you run up against.

Any number 4 cuts not in the 9th or the 10th positions are left at the shear line when the key is inserted. Any lock where a number 1 or 2 cut is in the 9th or 10th space and the lock is virtually picked. Lubrication is a good idea, but isn't necessary to pick the lock.

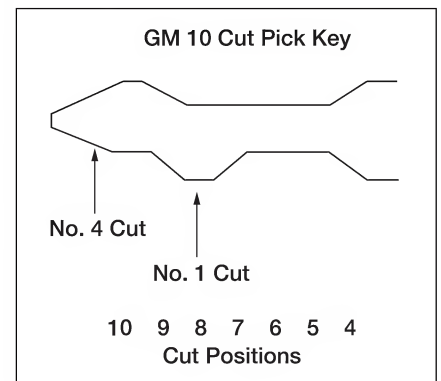
I make my pick keys on a #2 Framon and adjust the measurements slightly. I

take 10 thousands off the full width of the blade for the number one cuts at the 10th space on one side and at the 8-1/2 space on the other. I cut the 4 cut from the 9th space out and the 6th space in on the side with the 1 cut at the 8-1/2 space (*refer to illustration*).

I have had good luck using pick keys with Chrysler double sided locks and the older 7-cut Saturn locks with the same configuration. Now for the



*by Jake  
 Jakubowski*



**Illustration 1.**



real trick, using this computer to make a diagram of the key.

*Leo Koulogianes  
Tennessee*



**STRATTEC WINNER:  
Defeating A High-Security Rim Cylinder**

You can open a high-security rim cylinder without wrenching or yanking it off the door.

First, get a retaining plate from the lock cylinder in question and put it flush with the face of the cylinder. Use a black marker to mark where the set-screws would normally be positioned. Now use a new 1/4-inch drill bit and drill straight in at each mark until you feel the bit penetrate to the retaining screw.

If the cylinder was properly installed, there may be a ball bearing placed in each hole before the retaining screws were inserted. If that is the case, drill a new hole just beneath the first one and force the ball bearing out of your way. Continue to drill your first holes until you remove the retaining screws.

After removing the cylinder, use a screwdriver to activate the lock and the door is open.

*Francisco Moro  
New York*



**HPC AIR WEDGE™  
WINNER:  
Quick Shim for HPC's  
1200CM**

Our shop has a mobile fleet of 8 vans and every van is equipped with a HPC 1200 code machine. We have found that cutting some keys using the supplied flat shim can be a real bear. We have been using a very simple, easy, quick and readily accessible alternative. Just take a give-away key ring and straighten it out. The ring is just the right thickness to fit in the milling on keys. (See illustration 2.)

*James Botek  
Oregon*



**SARGENT &  
GREENLEAF WINNER:  
Portable  
Compressed Air**

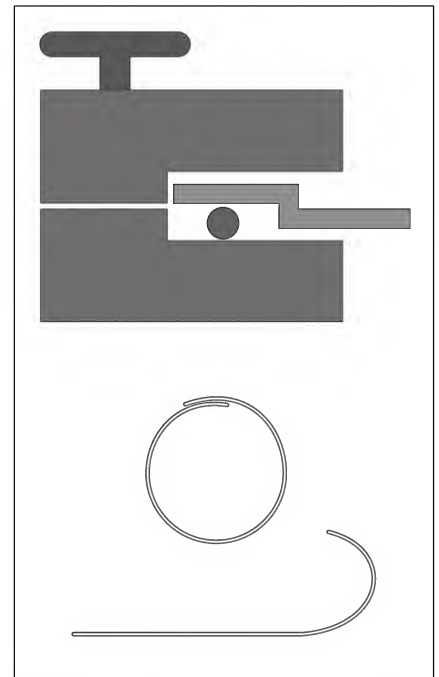
I thought about hooking up an air compressor in my van for blowing off my workbench and cleaning out drill shavings from safes and other locks that I have to drill open.

Then I remembered that Office Depot sells cans of compressed air for about three bucks a can. The cans come with a tube (like you find on WD-40 lubricant) and I find it perfect for cleaning my key machines, work

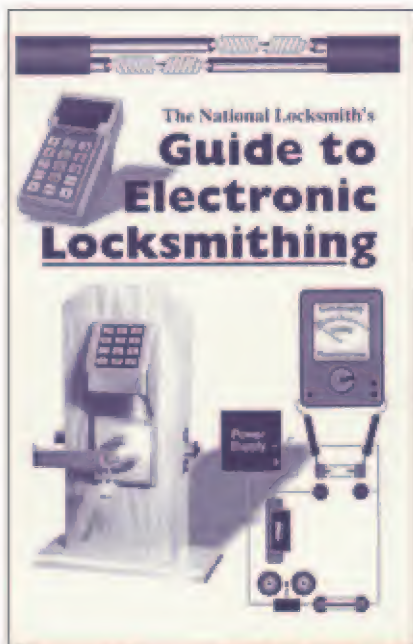
surfaces, and removing shavings from drilled holes in any material.

I now keep a can on my truck and it stores in a drawer, which is a lot less space than an air compressor would require.

*Ron Pang  
California*



**Illustration 2.**



## Electronic Locksmithing

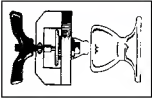
Everyone knows there's big money in selling, installing and servicing electronic security such as mag locks, electronic strikes, and simple access control.

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#EL - 1





**A-1 SECURITY PRODUCTS WINNER: Best/Falcon Easy Control Key Chart**

Here's an easy chart for determining the control key for a Best type system, from an existing core.

First, list (as seen below) a column of figures from 13 down to 4. Next list a second column down from "0" to 9.

TOP PINS	CUTS
13	0
12	1
11	2
10	3
9	4
8	5
7	6
6	7
5	8
4	9

Now, empty the core chamber-by-chamber and measure the top pin either by measuring it or by comparing it to a known pin from your IC pinning kit.

If, for example, the pin in the first chamber is a number 9 top pin, look at the above chart and you see that a number nine top pin equals a number 4 cut. Therefore, the first cut on your control key is a 4.

Repeat the procedure for each chamber until you have a working control key.

*Bruce Paget  
Texas*



**ILCO KEY BLANKS (100) WINNER: Small Drill Bits, Big Help**

I recently purchased from an Electronics store a tiny hand drill with a range of very small bits. These are designed for using on circuit boards, but I have found it great for removing broken keys from all types of locks.

The bits are so small that they can be used to drill into the end of a broken key and once in far enough, it is just a matter of carefully pulling on the drill and removing the broken key.

*Guy Parker  
Australia*



**KEEDEX WINNER: Prepping Metal Frame for Strike**

When you encounter a metal frame that does not have a cutout for a strike plate your choices are:

1. Measure and slot frame for a latch and surface mount the strike plate if you have sufficient clearance between door and frame. This is the easiest method of installing a strike.

2. Measure and mark a cut slot in frame to accept the latch. You cannot use a strike plate if there is insufficient clearance between door and frame. If the door will not latch on its own and hangs up on the frame then you have to...

3. Measure and mark location of latch bolt on frame. Next, correctly position strike in exact location, mark a cutout for the mortise strike plate. Then mount the strike plate using mounting tabs or brackets to frame. This procedure

requires detailed measurements so measure three times and cut once.

*Ed Star  
A-1 Lock Service*



**TECH-TRAIN TRAINING VIDEO WINNER: Manipulating a Cable Lock**

Recently I came across an inexpensive cable lock for which my customer had forgotten the combination. These low security locks

## Locksmith Dispatcher 2000

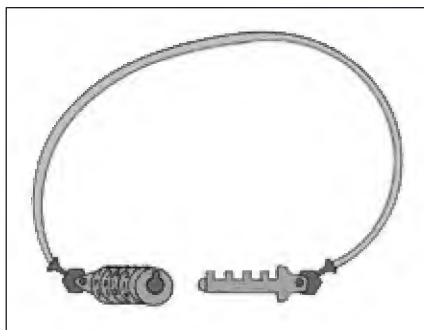


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#DIS - 2000





**Illustration 3.**

consist of a 40-inch steel cable, one end of which has a combination barrel housing four wheels numbered 1 thru 6. (See illustration 3).

The other end of the cable has a 1/8" diameter metal rod that is topped with four metal wards. When the numbered wheels are set to the correct combination the wardered rod will enter the combination barrel. Cable locks like this are often used to secure computer equipment, skis, bicycles or even fire arms.

I was about to walk back out to my truck to get the bolt cutters when I noticed something very interesting. As I tugged on the two ends of the cable I saw that several of the number wheels were forced to the right. Starting with the wheel that moved the most, I changed its setting, one number at a time. When that wheel was set on the correct combination it no longer moved to the right when I tugged on the cable. Now as I tugged on the cable only three of the wheels moved.

Selecting the wheel that moved the most when tugged, I repeated the steps described above. In less than three minutes I had recovered the lost combination.

*Ray Haithwaite  
Connecticut*



**SIEVEKING  
PRODUCTS GM E-Z  
WHEEL PULLER  
WINNER:  
Getting A Grip on  
Openings**

Are your car opening tools slipping off of the door linkages?

I have found that by using automobile rubberized undercoating (in an aerosol at you neighborhood auto parts store) lightly sprayed onto the tips of your door opening tools will allow for better grip of linkages.

The undercoating may be used for those openings that require a rubber tip on the end of the tool, precluding the need to purchase new rubber tips

when they end up in the door well of your customers automobile.

*Kurt Hudgens  
Colorado*

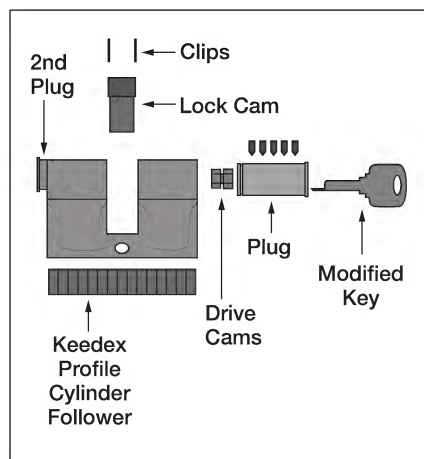
**Major**  
MANUFACTURING, INC.

MAJOR  
MANUFACTURING  
PRODUCTS  
WINNER:

### **Quick Profile Cylinder Change**

For profile locks that cannot be keyed through the top of the housing I use the following method.

After the disassembly of the lock using a Keedex follower, pin as necessary and insert one plug until the back of the plug is flush with the slot or opening in the housing. Duplicate the key on a six pin blank and modify it as shown in illustration 4.

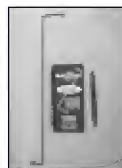


**Illustration 4.**

When in the plug, the modified key will allow the drive cams to seat into the rear of the plug. It will also act as a shim between the drive cams and the top pins. The plug drive cams and the modified key are installed as a unit. Stop when the drive cams are flush with the slot or opening in the housing.

At this point, hold the lock cam in place while you completely seat both plugs into the housing. Now insert the plug retaining clips.

*Robert Smith  
California*

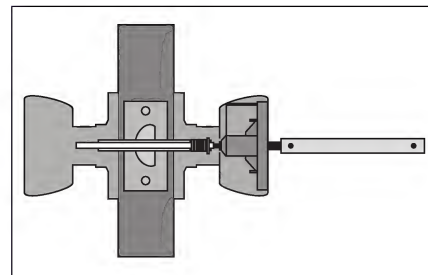


**SLIDE LOCK'S "Z" TOOL  
OPENING SET WINNER:  
Old, But Weiser**

I know this is an old, old trick, but there are probably some that do not know how to "shim" a Weiser to get the knob off the door without disassembling the whole thing.

First, you do need a working key (unless you are a competent lock picker) for this trick to work.

As shown in illustration 5, insert a pick until you feel it push against the spindle and the spindle stops moving backward. Bind the spindle by putting vertical or horizontal pressure on the inside knob.



**Illustration 5.**

Now you can use the key to rotate the plug and remove the cylinder without having to take the entire assembly off of the door. This trick will not work if there is no key available, and it will not work if the lock is defective and needs repair or replacement. However, it does save time on rekeys and is worth trying.

*Bob Smith  
California*



**THE SIEVEKING AUTO  
KEY GUIDE WINNER:  
Offset 'Dog Tooth'  
Opens GM**

I have trouble using the standard method of opening the newer GM cars with the protected lock rod. On many of the models, there is a small space (one to two inches) at the very back of the rod. This space can be seen, but cannot be accessed with the Tech Train TT1008 tool.

I modified a Dog Tooth tool and put a 1" offset to the left that will allow it to enter the area and move the horizontal rod forward. (See illustration 6.)

I believe almost any type of horizontal tool can be modified to work. If the tool is offset to the left, it can only be used on the passenger door.

*Donald P. Georges  
Texas*

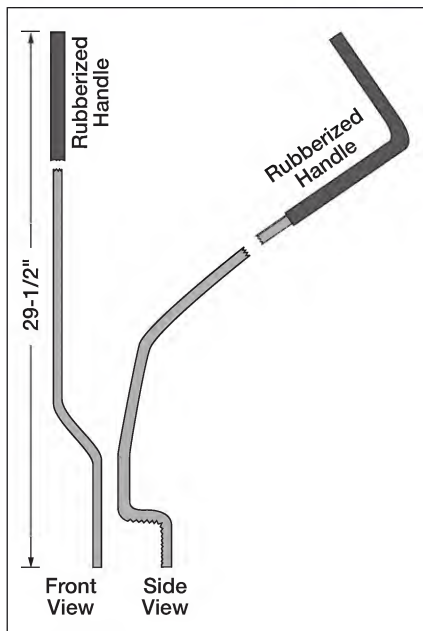


**JET KEY BLANKS  
WINNER:  
A Little Crease Goes  
Long Way**

Doesn't it seem that the best things happen by accident sometimes?

Take, for example, my cylinder shim. Somehow it got where it shouldn't and ended up with a crease along its length. This was just a little crease, about half



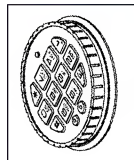


**Illustration 6.**

an inch long in roughly the center of the shim, but don't you know that shim has been on my bench for months. I just trim the rough end with scissors if necessary and shim away.

That little creased shim slips into the shear line like nothing else.

*Dave Hallee*



**LA GARD WINNER:  
Vandal Resistant  
L1000**

It seems that in certain areas vandals cannot resist trying to open a Simplex L1000 by trying to over torque the lever and thereby necessitating a repair.

*Illustration 7*, shows how to prevent damage from over turning the handles by installing domed door stops (such as Ives Domed Stop #436) at the end of the lever travel. This installation effectively protects the lever from being forced beyond its intended arc of travel.

After installing the domed stops, you might want to use JB Weld, or a similar epoxy to prevent the screws from being removed if you do not use security screws for the installation.

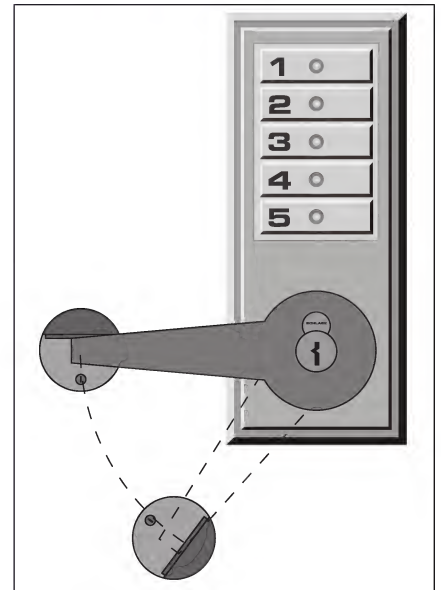
*George Donaldson  
Texas*



**2000 Neon**

**HIGH TECH  
TOOLS WINNER:  
Opening the**

Not finding any opening information on the new Neon in the four opening manuals I carry; I



**Illustration 7.**

decided to inspect the interior of the door to see if I could find a way to open this vehicle. I found the door was not secure against the use of an under-the-window tool.

With the under-the-window tool the car was open in a matter of seconds.

*George Steiner  
Nevada*

**TNL**

## 15 Minute Safe Opening

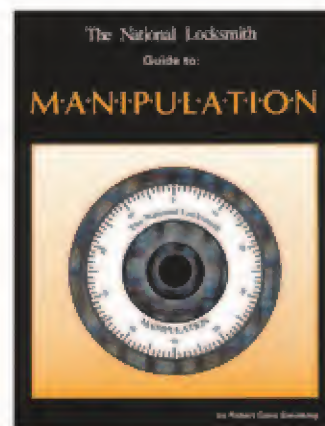


This book deals exclusively with round head lift out doors. Shows five ways to open a Major; three ways to find the Dog Pin on a Major; four ways to open a Star; four ways to open a LaGard style round head.

**CLICK HERE TO LEARN MORE**

#JJ - 1

## Manipulation Home Study Course



Our home study course guides you on step-by-step process, teaching you everything there is to know about manipulation.

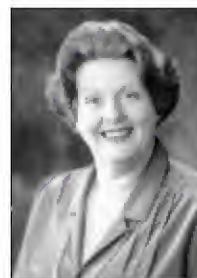
**CLICK HERE TO LEARN MORE**

#MAN - 1



# The WINTER Side

"...and The Livin' is Easy!"



by  
**Sara  
Probasco**

"They've broken off a key in their lock," Rickie announced as he handed the work order to Keith.

"Not another one!" Keith said. "That's the third one today."

"Must be the weather. You know how people get when the temperature's up over a hundred for days on end."

"Yeah. Loco!"

"Well, I just hope it'll get around to raining, one of these days," Don chimed in. "Not for me, so much — I've seen it before - but for my seven-year-old grandson."

"You think it's bad now, I remember one year it was so dry the trees were whistling for the dogs," Keith parried. Then he ducked and ran out the door, laughing, before anyone could throw something at him.

When he reached his destination, the customer showed him what he had of the broken key and confirmed that the tip was, indeed, edged tightly inside the keyway of his outside door lock. "We've done everything we could think of to get it out," the man admitted.

"I wish you'd called us first. What you've probably succeeded in doing is wedging it tighter than ever," Keith told him, as he probed the keyway with his little handy-jim-dandy retrieval tool.

Nothing budged.

But as Keith withdrew the tool, he brought with it a puddle of greasy, black gunk. "What in the world...?" he muttered.

"Uh, well, after we'd tried digging it out and filling it with graphite, and all that, somebody suggested spraying some oil in the lock, so we tried that."

"Not a good idea," Keith said. "What kind of oil?"

The man shuffled his feet and grinned foolishly. "PAM," he said softly.

"What?"

"PAM."

"Cooking spray?"

"Yeah, well, that's all we could find."

Dipping his finger in the oil and graphite mixture, Keith smelled of it. Then he wrinkled his nose and looked up quizzically at the customer.

"Garlic-herb flavor," the man said with a shrug.

"You can't imagine how awful that gunk smelled," Keith told us when he had returned to the store. "No telling how long it had been sitting there, swimming in graphite and garlic-herb PAM, with a hundred and ten degree sun beating down on it. I mean, it was gross."

"But you did manage to get the broken tip out?" I asked.

"By the hardest," Keith answered.

"Just be thankful you didn't run into a situation like another locksmith told me about, recently" I said.

"What was that?" Keith asked.

"Somebody had broken off a key in a lock...."

"So, what else is new?" Keith muttered.

"Sounds like the epidemic isn't confined to Uvalde," Rickie said.

"But wait! This customer had an ingenious idea. He decided if he could glue the broken edges together, and if he was very careful, he could withdraw the mended key, tip and all, and avoid calling a locksmith. So, he

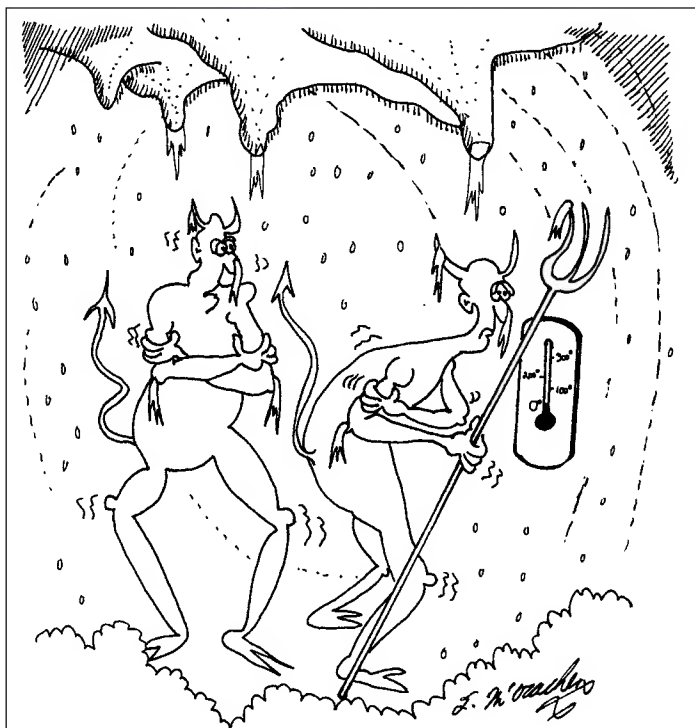
wondered, what would be the best kind of glue to use? Of course! SuperGlue!!"

"You're kidding," Rickie said.

"Nope." I continued. "He put a dab of SuperGlue on the broken edge of the key and slid it into the lock until it touched the broken edge of the tip. Then he left it there a few minutes to 'set up.' It did. By the time he went back to try out his theory, key, tip, and all were firmly bonded to the keyway. Need I say, by the time the locksmith got through, it cost the man several times what it would have to simply remove the broken tip."

"You know," Rickie said, "sometimes it's hard for me to keep a straight face when things like that happen. But I've noticed nobody has much of a sense of humor about such things."

"Speaking of which...." Keith pulled a folded page from his hip pocket and smoothed it out on the



**"The only thing I can figure is that a house was left unlocked in New York for a week, and nothing was stolen."**



counter. "Have you been over to the aviation museum, lately?"

"Not in a while," I answered.

"They had this little 'Consumer Survey' posted on the bulletin board, said somebody out on the West Coast sent it to them. Seems it's been circulating among the employees of McDonnell Douglas for a while, but nobody seems to know who started it."

We all huddled around to take a look.

### CONSUMER SURVEY

Thank you for purchasing a McDonnell Douglas military aircraft.

In order to protect your new investment, please take a few moments to fill out the warranty registration card below.

1. ☐ Mr. ☐ Mrs. ☐ Ms. ☐ Miss

☐ Lt. ☐ Gen. ☐ Comrade

☐ Classified ☐ Other

First Name/Initial/Last Name: \_\_\_\_\_

Password: \_\_\_\_\_

Code Name: \_\_\_\_\_

2. Which model aircraft did you purchase?

☐ F-14 Tomcat

☐ F-15 Eagle

☐ F-16 Falcon

☐ F-117A Stealth

☐ Classified

3. Date of purchase: \_\_\_\_\_

4. Please check where this product was purchased:

☐ Received as gift/aid package

☐ Catalog showroom

☐ Classified

☐ Independent arms broker

☐ Mail Order

☐ Discount store

☐ Government surplus

5. Please check how you became aware of the McDonnell Douglas product you have just purchased:

☐ Heard loud noise, looked up

☐ Espionage

☐ Store display

☐ Was attacked by one

☐ Recommended by friend/relative/ally

☐ Political lobbying by manufacturer

6. Please check the three (3) factors that most influenced your decision to purchase this McDonnell Douglas product:

☐ Style/appearance

☐ Speed/maneuverability

☐ Price/value

☐ Comfort/convenience

☐ Kickback/bribe

☐ Backroom politics

☐ Recommended by salesperson

☐ Advanced Weapons Systems

☐ McDonnell Douglas reputation

☐ Negative experience opposing one in combat

7. How did you pay for your McDonnell Douglas product?

☐ Traveler's check

☐ Cash

☐ Credit card

☐ Oil revenues

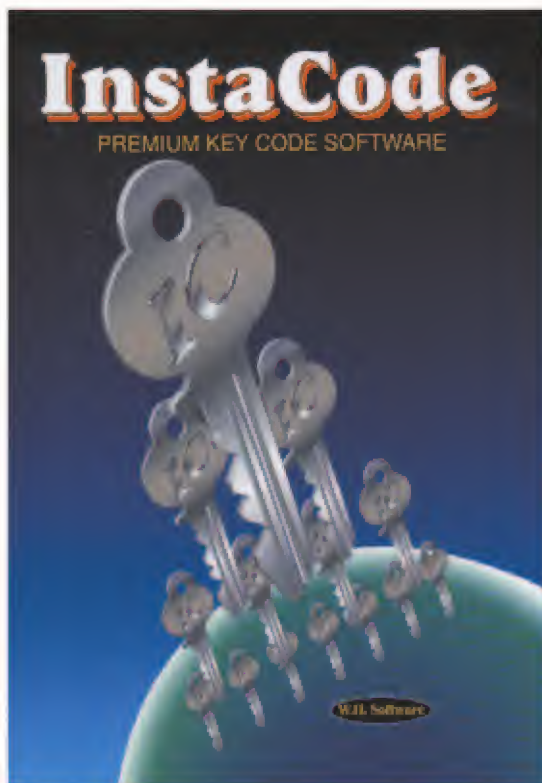
☐ Personal check

☐ Deficit spending

☐ Ransom money

☐ Suitcases of cocaine

**W**ho says the people who build fighter planes have no sense of humor! **TNL**



#IC - 2001

# InstaCode

Your total code and code machine management program.



**CLICK HERE TO LEARN MORE**



# Access Control Integration

by  
Richard Sedivy

Ask any locksmith to name the segment of their market that offers the best growth potential for their business in the next several years, and their answer is sure to be electronic access control. The electronic access control market may not only offer the best potential growth for a locksmith; it may become a necessity for the locksmith's business to survive in the 21st century. Locksmith will also need to be a master at systems integration.

The multi-housing industry is perhaps the largest market segment driving the systems integration concept. The access control needs of a large apartment complex, gated community, condominium building, etc. is many. Access control must be designed for both resident and visitor vehicular and pedestrian traffic. Rather than having many different stand alone systems to provide for the different control requirements, managers today are looking for a system that can control all of their access control needs. In addition to these needs, managers and owners of high rise apartment buildings are asking for elevator control systems that are also integrated with the access control system as well. This is being driven by the fact that high rise apartment and condominium complexes are integrating commercial businesses on the lower floors of the building, while residents reside on the upper floors. This mix of the commercial and private sectors has created unique access control requirements that the locksmith needs to be aware of, and needs to know which tools are available to them to address these situations.

To meet these challenges manufacturers of telephone entry systems have been quietly redefining what these systems are and what they

can do to meet the expanded access requirements. Telephone entry system are becoming complete access control systems that integrate multi-door card access, elevator control and communication into a complete, compact, PC programmable system. (See photograph 1.) For the locksmith, this provides an opportunity to expand your market niche and increase your sales and profitability.

Integrated telephone entry systems are those type of systems that can typically control 8 to 16 separate entry points by card, digital code, or RF transmitter devices, in addition to the main entry point that a guest or visitor would use. (See photograph 2.) This is one of the great benefits of the telephone entry/access control system. They provide access control for both visitor and resident personnel.

Many of these systems can provide usage by several thousand users (residents), and provide storage for up to 10,000 individual card or RF transmitter codes. In addition, they also keep a record, often called a history buffer, of all activity that has happened within the access control system. Because the telephone entry system uses a Central Office (C.O.) phone line for communication,



**1**  
The  
Door  
King  
Model  
1815  
surface  
mount.

manufacturers have designed these systems with built-in modems. This allows the property manager to perform all programming tasks from a PC in their office, and maintains a database of all system users with easy to use Windows programming applications.

The PC programmability of these systems has allowed manufacturers to include many features often only found in high-end access control systems. Some of these features include sophisticated time zone applications, security levels, door ajar alarms, forced entry alarms, and elevator control. These features alone make the integrated telephone entry system a unique product for many low and high rise apartment buildings, college dormitories, industrial applications, gated communities, and more.

Elevator control is one of the new features that is increasingly asked for by building managers and owners.



Simply stated, elevator control has two primary functions.

1. Restrict elevator usage to those persons with the proper security level
2. Restrict which floor a visitor to the building may have access to.

Let's consider the visitor first. The visitor will contact the building resident that they wish to visit via the telephone entry system. When the building resident grants the visitor access, the telephone entry system sends data to the elevator control module informing it that a visitor has been granted access. The elevator control module then "calls" the elevator car to the ground floor. Once the elevator car reaches the ground floor, only the floor button that the resident who granted the visitor access resides on will be active. This limits the visitor to riding the elevator car to only that specific floor.

The second part of elevator control is to provide access to certain floors only to the building residents. This can be further restricted through the use of security levels to restrict a resident (or residents) to access certain floors only, while allowing others access to all floors.

For example, suppose a high rise apartment building had a fitness center on the 19th floor. Only those residents who paid a membership fee to the fitness club are allowed access to this floor. With security levels and elevator control, those residents who do not belong to the fitness club would not be allowed access to this floor, but would be allowed access to

all other floors. Likewise, residents who do belong to the fitness club are allowed access to all floors, including the fitness club floor.

Another example where elevator control is in demand is the multi-use building that mixes commercial businesses on the lower floors and residential apartments on the upper floors. Here, elevator control and security levels prohibit the business customers and employees from accessing the private residential floors of the building. Likewise, the elevator control can be used to prohibit the private residences from accessing the floors that the businesses are located on. For this type of elevator control to work, a card reader needs to be installed inside the elevator car. The security level assigned to the residents access card determines which floor buttons in the elevator car become active when the card is read.

Interfacing with the elevator control panel and installing a card reader in the elevator car itself requires the assistance of a licensed elevator technician. (See photograph 3.) This all may sound very complicated, but in reality it is quite simple. The elevator technician will be aware of local codes regarding elevators and elevator control systems. For example, in many cities, the elevator control module will have to be installed within six feet of the electronic elevator control panel. Typically, this will be on the top floor of the building above the elevator shafts.

Data wires will have to be run from this point down the telephone entry system on the ground floor. To install the



**2**  
**Model 1507 keypad access control.**

card reader in the elevator car, wires may need to be run along the elevator electrical umbilical cable if the cable does not have any spare wires that can be used for this purpose. However, many elevator electrical umbilical cables have spare wires for auxiliary needs. These spare wires can be used to connect the card reader in the elevator car with the access control system.

Secondly, the elevator control module floor relays simply wire in series with the elevator floor buttons. This allows the elevator control to "turn on" and "turn off" the floor buttons in the elevator car as required. The floor relays are set for normally closed operation so that in the event of a power failure or system failure, the floor buttons in the elevator car revert to normal operation.

Telephone entry systems, electronic access control systems, and elevator control are great opportunities for locksmiths to carve a niche for themselves in the ever-increasing electronic access control market. Locksmiths need to become aware of, and prepared for, the ever-increasing challenges of access control in the 21st Century.

### About the Author

*Richard Sedivy is the Director of Marketing at DoorKing, Inc., Inglewood, CA. He is a graduate from California State University and has been involved in the access control market since 1975. Mr. Sedivy can be contacted at DoorKing, 310-645-0023 or email him at [rasedivy@doorking.com](mailto:rasedivy@doorking.com).*

Circle #301 on Rapid Reply. **INL**



**3**  
**Model 1512 stand alone card reader.**



# GM 6-Cut Ignition Wafer Reading

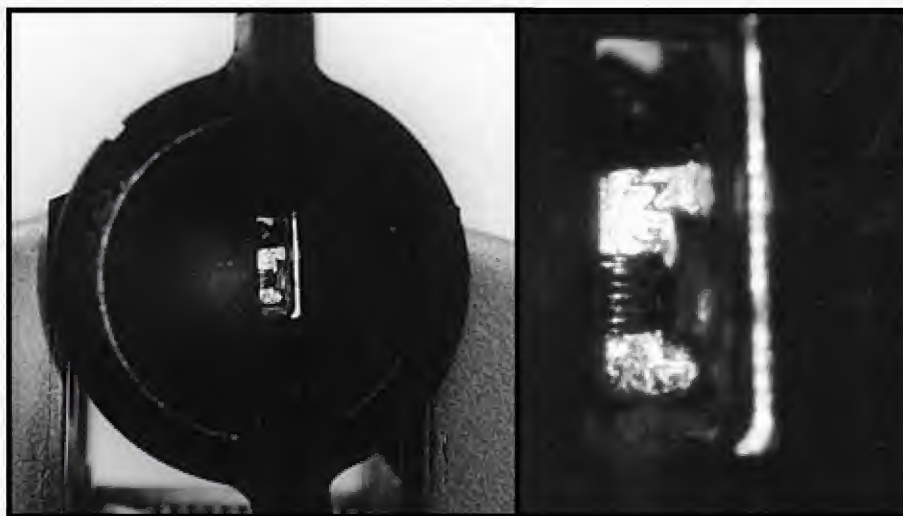
by  
Bob  
Sieveking



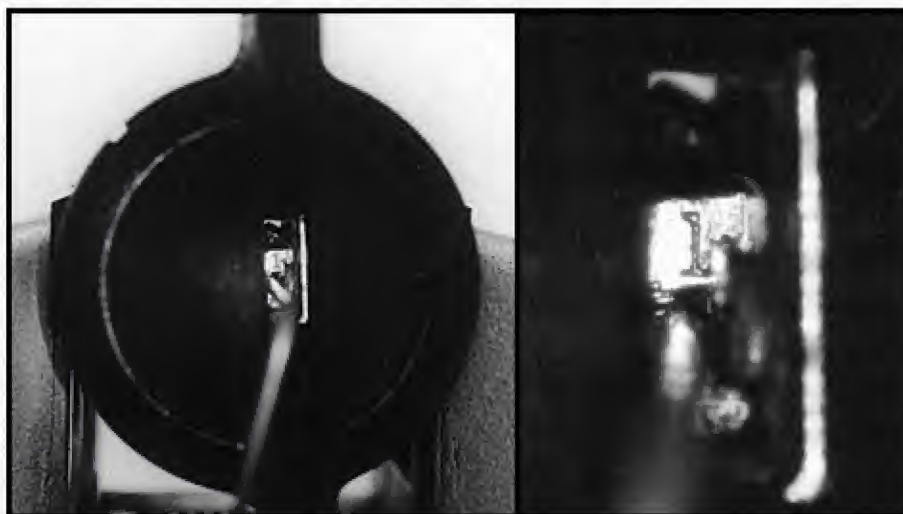
**If** I told you that it was possible to read a General Motors (GM) six-wafer ignition, you would probably turn away in righteous disgust, at the notion that a sidebar lock could be read through the keyway. If someone had told me that it could be done so easily, I would probably break into a long dissertation on the construction of the sidebar lock and show why it was impossible to read sidebar locks. It is impossible to read the sidebar lock because all the wafers rise to the same level in the keyway. Their relative heights will not indicate the correct "depth of cut" for the key. A sidebar lock does use wafer or plate tumblers to decode the cuts of the key and determine the correctness of the bitting, but the principle of the sidebar lock is very different from that of the wafer lock.

For the past few years, the OEM locks found on some General Motors vehicles have been manufactured in Mexico. These are Strattec products. I have found both the standard 6-wafer screw retained ignition cylinders and the VATS ignition cylinders in this group. If you remove the ignition to find a code number, you will find an inked number or a dot matrix number that does not appear in any code books that I have found. For example: 1147. The only option is to disassemble the lock cylinder, pick it in your hand, and read the depths through the gap next to the spring retainer. A more time consuming method could be to remove the tumblers and identify the cut depths by the position of the sidebar gate of each wafer.

*Photograph 1*, shows the face of a standard GM ignition cylinder. Look



**1. The face of a standard GM ignition cylinder.**



**2. Depress the number one wafer to read the number two wafer.**

a little closer and you can see the number one wafer. If you study the visible front face of the wafer, you will see a number "3" stamped clearly on the brass face. Guess what, the first wafer is a number three. The first cut in our key will be a number three depth.

You will need to make yourself a

reader tool to read the remaining wafers of the lock, but the tool is quite simple. Use a piece of .045 inch music wire. Measure 1-1/2 inches from the tip and make a simple 90-degree bend. Now you have a reader tool. This tool is needed primarily for the VATS ignitions.





3. The third wafer which has a number "2" stamped on it.



4. Wafer number four shows a stamped number "3" on its face.

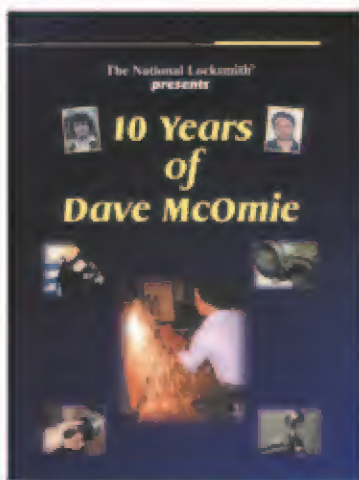
In *photograph 2*, I have used the wire reader tool to depress the number one wafer to read the number two wafer. A close look at the wafer reveals a number "1." Stamped on it. The second cut in our key will be a number one.

*Photograph 3*, shows wafers one and two depressed, to reveal the third wafer which has a number "2" stamped on it. The number is upside down, but can be seen as plain as day. If you find grease and dirt in the lock that obscures the numbers, use a little WD-40 in the keyway to wash the wafers. Spray the lock and exercise the tumblers by running a cut key in and out a couple of times. Spray the lock once again to wash away any loosened dirt.

*Photograph 4*, shows the reader tool depressing wafers one, two, and three. Wafer number four shows a stamped number "3" on its face. The stamp is not as clear as some of the previous tumblers, but is easily read. The stamped number "3" is laid over on its right side. (These wafers are much easier to see than they are to photograph.)

*Photograph 5*, shows wafer number five which has a number "4" depth stamped on it. The four is upside down.

*Photograph 6*, shows the first five tumblers depressed to reveal a number "5" stamped on the face of the number six and last wafer. The "5" is laid over on its left side.



## 10 Years of Dave McOmie

Every single National Locksmith article by Dave McOmie from August 1986 through August 1996 under one cover!

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#DM - 10



That completes our key. The cuts, from bow to tip are 3-1-2-3-4-5. *Photograph 7*, shows the cut key that operated the lock.

Please notice that we read the ignition from front to back, as opposed to depressing all the wafers to pop up at a time. This was done because we did not want to displace any of the wafer springs with our reader tool. Be careful as you start poking wires into locks. If you push one of the wafer springs off its wafer, you will have to disassemble the cylinder to repair the problem.

### Insight

I have used this method on columns brought into the shop from wrecking yards and car dealers in the area. The columns are usually air bag equipped. With the wheel turned, there is no access to the air bag attachment screws. If you cannot remove the wheel, you cannot disassemble the column to make a key or replace the ignition switch. If someone else could have disassembled the column, they would have thrown in an aftermarket ignition and I may never have seen the job. The dealers believe that it is easier to remove a lock or a whole column and bring it to the shop. Could we plug the word "cheaper" into that last statement?

**I**offer you this inside information in the hope that you will use it to cut your time of the job and increase your profitability. The service to make an ignition key for a particular vehicle costs so much whether it takes you 1-1/2 hours or 1-1/2 minutes to make the key. Do not reduce your prices just because you reduced your time spent accomplishing the same task. This is a dynamite trick, which will make your job easier.

This method will work on "all" original equipment Mexico made ignitions to date. It has worked for me on all ignitions that were stamped with an unlisted code number, including single sided VATS ignitions.

If you think you can't read a GM sidebar lock, you would be correct. You cannot read a GM sidebar lock. That is, of course, if you don't try!

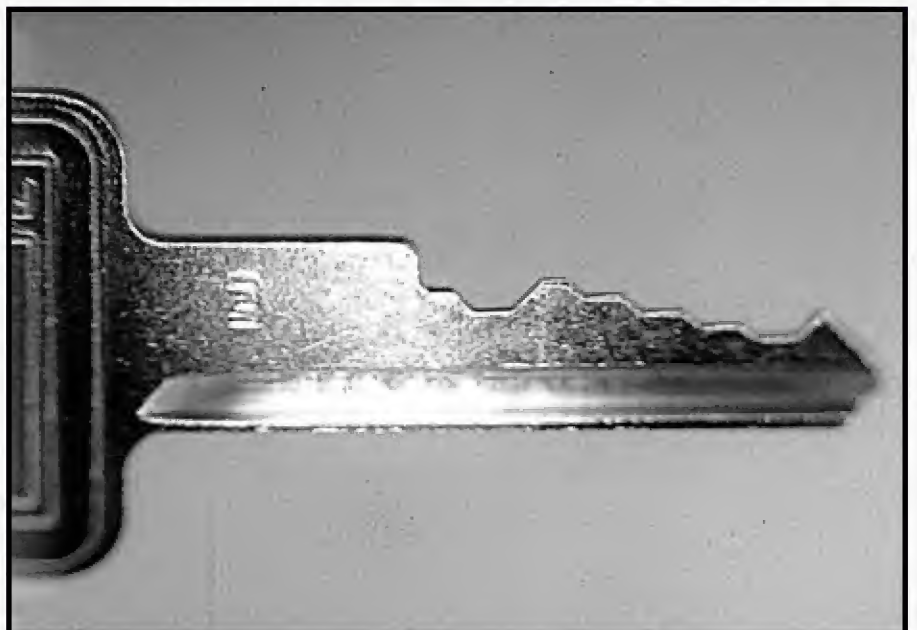
Read-em and reap. **NL**



**5. Wafer number five has a number "4" depth stamped on it.**



**6. A number "5" stamped on the face of the number six and last wafer.**



**7. The cut key that operated the lock.**



# ROOTS

by Marc Goldberg

**Roots.** It was one of the highest rated television series in the history of the medium. That's because it gave a long awaited opportunity to African Americans to trace the history of their people.

Origins are important to all of us. Trace your family tree and you're sure to find a cast of characters that helped form who you are today. The same is true of the locksmithing industry. Over the years, a collection of unique and dedicated individuals brought locksmithing from a trade of itinerant tinkers to a modern profession.

In this article, we'll peel back the decades and look at some of the people who helped to form modern locksmithing as we know it today. We owe them a debt of gratitude. Before I go any farther, however, let me apologize in advance for the many omissions of which I am bound to be guilty. It is just not possible to recognize all the individuals here who justly deserve such remembrance were space and research abilities are not so limited as they are.

Before we jump right into locksmithing's roots, I would like to mention three gentlemen who mean something to me personally, but for whom we have no photos easily available to show.

My own great-grandfather, Max Taylor, stares at me across my office from a painting done in the 1950's. It

hung for years in the conference room of Taylor Lock Company in Philadelphia, which he started in the 1930's. That is how far back my personal connection to our industry traces. Max made replacement key blanks so that locksmiths would have a source of supply to conduct their work.

Stan MacLean founded *The National Locksmith* magazine in 1929. He is one of the unsung heroes of this profession. When Stan started the magazine, right on the eve of the Great Depression, locksmiths barely talked to one another for fear of revealing trade secrets. Training and sharing virtually did not exist. Stan's effort was the very birth of communication among locksmiths. Such communication ultimately led to the formation of ALOA and a myriad of other associations, along with all the good they do today. Stan's magazine obviously survives, and you're holding a copy of it in your hands right now.

Harold Hoffman was a locksmith who proved quite talented at making his own tools. Back in the 1930's and 40's this was something that every locksmith needed to master, since no company actually manufactured them. Harold eased the burden on generations of locksmiths to come by forming a company to make and sell picks and other tools, still in use by locksmiths at this moment.

We should never forget the past, so let's look back now at people, some who are gone now, some who are still with us, who made important contributions to us all. Each of the individuals mentioned here have been recognized by the Greater Philadelphia Locksmith Association (GPLA) as Philadelphia Award recipients. The year in which this prestigious award was presented follows the person's name.



**Barney Zion 1953**  
New York, NY

Barney Zion founded Majestic Lock Co. He was an active locksmith, locksmith distributor, and manufacturer of lock picks and other locksmithing tools. Barney was very active in the New York Locksmith Association and considered an early advocate of education for the locksmithing trade.

**Robert Rognon 1954**  
New York, NY



Robert Rognon was a founding member of ALOA. He and his wife, Lee, were extremely active and instrumental in the early years of ALOA. Bob operated a locksmith shop in New York, NY.



**Hermann Henssler 1955**  
Philadelphia, PA

Hermann Henssler was a founding member

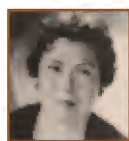


of both the GPLA and ALOA. A meeting outlining the initial structure of ALOA was held in Hermann's kitchen in 1954. He owned and operated Hennsler's Lockshop, 926 N. 13th Street in Philadelphia, PA

**Robert Argens 1955**  
**Seattle, WA**



Robert Argens owned Argen's Safe & Lock Co. Bob was a founding member of the Northwest Locksmith Association. He was instrumental in organizing the first Northwest Locksmith Convention. Traveling within the industry. He also served as director of ALOA.



**Lee Rognon 1956**  
**New York, NY**

Lee Rognon was the first secretary, and, for over 20 years, the executive director of ALOA. She is considered a driving force behind the growth of ALOA and a friend to the Philadelphia Association

**Harry C. Miller 1957**  
**Rochester, NY**



Once president of Sargent & Greenleaf, Harry C. Miller also co-founder of Lockmasters. He is considered an advocate of industry education and growth. Harry is most noted for his modern manipulation techniques and comprehensive lock collection. He is the proud holder of 54 patents in our industry.



**John Wiedman 1962**  
**Philadelphia, PA**

John Wiedman was the founder of GPLA. He was a recognized expert on master keying and his services were sub-contracted by many lock manufacturers. John performed his trade on many war ships in Philadelphia Navy Yard. He owned and operated John Wiedman's Locksmith Shop at 1500 South 63rd Street in Philadelphia, Pa.

**James L. Taylor 1966**  
**Rochester, NY**



James Taylor served as the executive vice-president of Sargent & Greenleaf and was cofounder of Lockmaster. Jim was active in industry education, particularly in the area of manipulation. He also founded Precision Products. (P.P.I.) in Lexington, KY a manufacturer of safe deposit locks.

# Locksmith Dispatcher 2000



Controlled Service dispatching software  
specifically for the locksmith!

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#DIS - 2000



# Lock Repair Manual



Here, under one cover you have a tremendous amount of lock servicing information. Next time you run into a problem chances are you'll find the answer in the Lock Repair Manual.

CLICK HERE TO LEARN MORE



#LRM - 1



**Ben Silver 1968**  
New York, NY

Ben Silver owned and operated D. Silver Hardware Co. on Essex Street. His humanitarian efforts toward the locksmiths were great assistance to his customers and those in the trade. Ben also received the first Philadelphia "Distinguished Distributors Award" in 1978.

**William Zipf 1970**  
Columbus, OH

William Zipf owned and operated Zipf Lock Co., a locksmith supply company in Columbus, OH. Bill is credited with developing the color-coded pin kits that are so popular, along with many other innovative products.



**Sal Schillizzi 1973**  
New York, NY

Sal Schillizzi owned and operated All Over Locksmiths in New York. Sal is best known for his call-in radio show for Burglary Prevention and various TV appearances. These efforts were designed to educate the public in the area of burglary prevention.

**Wiegand Jensen 1974**  
Youngstown, OH

Wiegand Jensen owned and operated the Jensen Micro Dial Co. Wiggy was known and respected for the modifications to key machines that incorporated dial readouts for accurate key cutting. He tirelessly taught and educated locksmiths in the art of key cutting and masterkeying.



**Bill Reed 1979**  
Des Plaines, IL

For many years, Bill Reed served as the publishing editor of the Locksmith Ledger. His efforts to promote education and knowledge among locksmiths were endless. Bill founded the Reed Security Reporter and Trust Organization in 1992, before his untimely death in 1998. Bill was also a monthly columnist for *The National Locksmith*.

**Gerald J. Connelly, Jr. 1984**  
Philadelphia, PA

Gerald J. Connelly, Jr. was extremely active in GPLA, serving as master of ceremonies for many GPLA banquets. Gerald acted as a worldwide



ambassador and spokesman for the trade, speaking at an endless number of conventions. He owned and operated Center City Lock & Key. Gerry will long be remembered.



**Evelyn Wersonick 1986**  
Albuquerque, N.M.

Evelyn Wersonick was the first woman to earn the highest designation of Certified Master Locksmith and also the first woman to serve as president from 1989 thru 1991 of the largest international locksmith organization called ALOA. Evelyn was also southwestern vice president of ALOA. Evelyn's father, Vince Vigil received the Philadelphia Award in 1965. Evelyn continues to operate Vigil's Lock & Key in Albuquerque, NM.

**Billy Edwards 1988**  
Salem, VA

Billy Edwards was Key Records manager for Medeco and Key Records Manager for Abloy-Arrow-Assa Lock Company. He was also a member of the National Task Group for Certified Training. Billy taught classes in keying and masterkeying for many associations around the country. He is also noted for his books on masterkeying. Billy was also a monthly columnist for *The National Locksmith*.



**Thomas Hennessy 1989**  
Salem, VA

Thomas Hennessy is noted for his efforts on behalf of the "Lock Museum of America" located in Terryville, Connecticut. His efforts in producing a newsletter and keeping the museum in the public light have been a great contribution to memorializing our trade.

**J. Clayton Miller 1990**  
Nicholasville, KY

Clayton Miller spent 20 years with Sargent & Greenleaf, the last five as president. He then purchased Lockmasters. Clay is best known for bringing together the fragmented safe technicians of our industry. In addition, Clay founded SAVTA (Safe & Vault Technicians Association) and is co-inventor of the X-07 lock.







**A. J. Hoffman 1992**  
**Plantsville, CT**

A. J. Hoffman was a member of the National Task Group for Certified Training. Best known for his dedication to education, A.J. Hoffman is particularly knowledgeable in the areas of interchangeable cores and masterkeying. He also served as curator for the ALOA museum.

**Breck Camp 1993**  
**Atlanta, GA**



Breck Camp took ALOA's PRP programs from infancy to a recognized national evaluation program. His energy was instrumental to the success of this program. Breck served in several capacities in ALOA, including president from 1993 through 1995. He owns and operates Security Engineering Consultants in Atlanta, GA.



**Dee Bucha 1994**  
**Kerrville, TX**

Seen at all conventions, Dee Bucha, was often with a camera in hand to document the proceedings for the trade journals. Dee also taught many impressioning classes and was active in the Texas Locksmith Association. She and her husband, Joe, operated Interlock, located in Kerrville, TX and has written for *The National Locksmith*.

**Henry H. Printz 1995**  
**Morristown, NJ**



Henry Printz, respectfully known as Hank was the first to earn the designation of Certified Master Locksmith in 1986. Hank is a member of seven locksmith associations in five states. Hank has served as president of ALOA as well as northeast vice president of ALOA and is a two-time recipient of the Man-of-the-Year-Award from New Jersey Master Locksmith Association, and also recipient of CPLA's Smitty Award and ALOA's Don Davis Award. Hank is co-owner of the Cy-Drake Locksmiths Inc. in Morristown, New Jersey.



**Gerry Finch 1996**  
**Torrance, CA**

Gerry Finch is known world wide for his manuals and classes on Lock Picking, Servicing

Interchangeable Core Cylinders, and Masterkeying. Gerry has taught classes nationwide, including Alaska and Hawaii as well as in Japan and Ireland. He is the recipient of the Locksmith Ledgers Hall of Fame Award, the California Locksmith Association's Golden Key Award, Associated Locksmiths of America President's Award, the Lee Rognon Award and the Gerald Connelly Pioneer Award. Gerry was also a monthly columnist for *The National Locksmith*.

**Other noteworthy Philadelphia recipients are:**

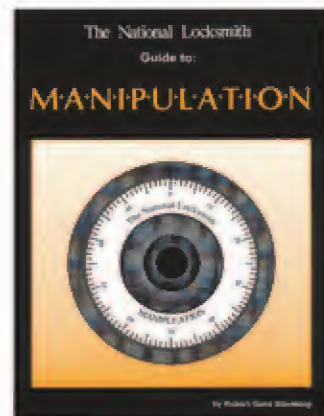
Joseph Carson 1954 Philadelphia, PA; Robert Rackliffe 1955 Springfield, MA; Leonard Singer 1955 Woodbridge, NJ; Ernest Johannesen 1956 Baltimore, MD; Edwin Toepfer 1957 Milwaukee, WI; Steve Fallshaw 1958 London, England; John McLindon 1958 Washington, DC; Robert A. Nelson 1959 Philadelphia, PA; Leon Kotch 1960 White Plains, NY; Harold George 1961 Milwaukee, WI; Robert Bell 1963 Bloomfield, NJ; Vince Vigil 1965 Albuquerque, NM; William Meacham 1967 Pasadena, CA; Robert Psolka 1969 Cherry Hill, NJ; Ted Johnstone 1971 New Baltimore, MD; John C. Miller 1971 Washington, DC; Constant Maffey 1972 Elizabeth, NJ; Robert McCown 1976 Chicago, IL; Rex Parmelee 1977 Nicholasville, KY; Charles Hetherington 1978 Dallas, TX; Lawrence McCall 1980 Penn Grove, CA; Ken Troy 1981 Fanwood, NJ; Ken Ehrenreich 1982 Fort Lauderdale, FL; Carey Parker 1983 London, England; Joe Jackman 1985 Kansas City, KS; Hans Mejlshede 1987 Copenhagen, Denmark; Jack Barber 1991 London, England; Brain D. Costley 1997 Nicholasville, KY; and Daniel M. Graffeo 1998 Topeka, KS.

Speaking of history, this is the perfect time to extend a special congratulations to the same Greater Philadelphia Locksmith Association which confers the Philadelphia Award. You see, this year marks the GPLA's Fiftieth Anniversary and big plans are afoot to celebrate the event at next month's convention.

**Following, is a special invitation from the GPLA to readers of *The National Locksmith*:**

You are cordially invited to help us celebrate our Golden Jubilee at our

## Manipulation Home Study Course



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#MAN - 1

## Ask Dave



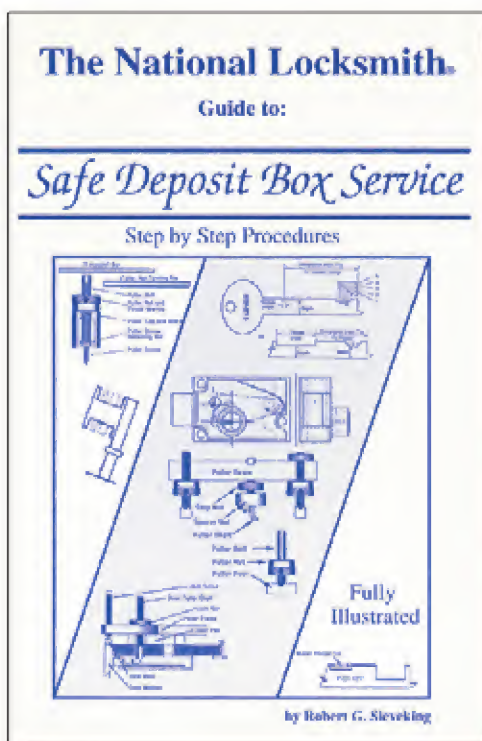
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#AD - 1



# Safe Deposit Box Service



There is gold in safe deposit boxes!

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#SDBS - 1

50th Anniversary convention, September 15 through September 19, 1999, to be held at the Radisson Hotel Philadelphia Airport. Please join us for:

**T**welve up-to-date, hands-on training classes, taught by nationally recognized instructors. These classes are designed to train the professional locksmith and security technician in both the basic and complex technologies of today's competitive marketplace.

A Free Clinic to update you on new and special products and procedures, all for the right price.

Come sample some of the foods and music that Philadelphia is known for at our "Taste of Philly" social on Friday evening.

This year's Professional Products Exhibit will feature both manufactures and distributors on a spacious show floor. And you'll want to brush up on your picking technique for the Lockpicking Contest. Cash prizes will be awarded to the fastest times in both novice and expert categories!

New this year! Join us Saturday morning as American Trolley Tours picks us up at the front door of the Radisson and takes us on a narrated 2-hour trolley tour of historic Philadelphia.

The Awards Banquet, a black tie (preferred) affair, has long been known as the pre-eminent social event of the locksmith calendar. You can be sure that we will be celebrating our 50th Anniversary with the party of the century to end the century. This is your opportunity to meet industry leaders from around the world and greet the recipient of the 1999 Philadelphia Award.

The Industry Open Forum provides the opportunity to join your professional peers in a stimulating and thought provoking discussion in which an exchange of ideas can be taken up by all.

All of us at *The National Locksmith* would like to congratulate the GPLA on fifty years of excellence and thank them for making photos and information available for this article. I can think of no better way to celebrate the history of locksmithing than to attend next month's show. **TNL**



# KEY CODES

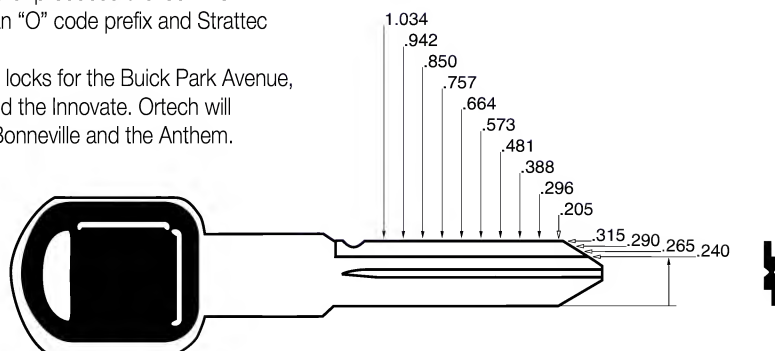
## New GM Code Series S000A-S711K, Part 2

General Motors is introducing a new 10-cut code series for the year 2000 vehicles. The code series is being split between three lock manufacturers: Huf, Ortech and Strattec. The letter prefix designation of the code will determine which manufacturer produced the lock. For instance, Huf codes will have an "H" prefix. Ortech will have an "O" code prefix and Strattec will have an "S" code prefix.

From the information we have gathered, Huf will be supplying locks for the Buick Park Avenue, Catera, Cadillac Seville, Cadillac Eldorado, Cadillac DeVille and the Innova. Ortech will supply locks for the Buick LeSabre, Oldsmobile 88, Pontiac Bonneville and the Anthem. Strattec will supply codes for all other GM models.

All previous 10-cut key blank and spacing and depth information remains the same. The only thing new is the code series.

As with the original 10-cut code series, this is a very large series addition. The portion of the code series we are presenting here is the Strattec series identified by the letter "S" prefix.



**Manufacturer:** Strattec for General Motors

**Code Series:** S000A - S711K

**Key Blanks:**

**BWD:** M95DB or M95DBL

**Curtis:** B-82 or B-86

**Iico:** P1102

**Iico EZ:** B82

**Jet:** B82 or B82NP

**Silca:** GM39

**Strattec:** 597500 (88 & 75 Grove)

**Number of Cuts:** 10

**M.A.C.S.:** 2

**Key Gauged:** Tip

**Center of First Cut:** 1.034

**Cut to Cut Spacings:** .092

**Cut Depth Increments:** .025

### HPC 1200CMB

**Code Card:** CF215

**Jaw:** A

**Cutter:** CW-1011

**Gauge From:** Tip

**HPC 1200PCH (Punch):**

**PCH Card:** PF215

**Punch:** PCH-1011

**Jaw:** A

**Silca UnoCode**

**Card Number:** 567

**HPC CodeMax**

**DSD #:** 259

**Jaw:** A

**Cutter:** CW-1011

**Curtis No. 15 Code Cutter:**

**Cam-Set:** GM-6

**Carriage:** GM-6A

### Framon #2:

**Cuts Start at:** .216

**Spacing:** .092

**Block #:** 3

**Depth Increments:** .025

**Key Clamping Info:** Using spacing clip, align tip of key with left side of vise. Lay clip flat on left side of vise and slide key in from the right.

**A-1 Pack-A-Punch**

**Quick Change Kit:** PAK-G1

**Punch:** PAK-90T

**Die:** Standard

**ITL 9000 & 950**

**Manufacturer ID:** 519

### Spacings:

1 - 1.034

2 - .942

3 - .850

4 - .757

5 - .664

6 - .573

7 - .481

8 - .388

9 - .296

10 - .205

### Depths:

1 = .315

2 = .290

3 = .265

4 = .240

S000F 2132131332	S017F 2132334422	S034F 2132344212	S051F 2132134312	S068F 2132311312	S085F 2133244212
S001F 2131312442	S018F 2131342332	S035F 2132131332	S052F 2132343132	S069F 2131313312	S086F 2132243113
S002F 2132242334	S019F 2131243442	S036F 2132343242	S053F 2132243122	S070F 2131324232	S087F 2131244342
S003F 2133234423	S020F 2133242344	S037F 2133223242	S054F 2133211313	S071F 2132342234	S088F 2132343423
S004F 2133132443	S021F 2132424434	S038F 2131331243	S055F 2132422334	S072F 2132242443	S089F 2133124422
S005F 2132344224	S022F 2133242422	S039F 2133243112	S056F 2131344342	S073F 2131342134	S090F 2133132342
S006F 2131323122	S023F 2133243342	S040F 2133124224	S057F 2131324242	S074F 2132344234	S091F 2133122312
S007F 2132123113	S024F 2133121324	S041F 2131243132	S058F 2133234312	S075F 2132213442	S092F 2133213113
S008F 2133134222	S025F 2131234422	S042F 2133224232	S059F 2133113442	S076F 2132123423	S093F 2131343324
S009F 2131312422	S026F 2131242112	S043F 2132431242	S060F 2132133122	S077F 2132434422	S094F 2131244313
S010F 2132423112	S027F 2133233113	S044F 2133112242	S061F 2131334212	S078F 2132323122	S095F 2132431124
S011F 2132334244	S028F 2133131232	S045F 2131344242	S062F 2131331312	S079F 2132133442	S096F 2133232422
S012F 2132312242	S029F 2133131244	S046F 2133221242	S063F 2133232313	S080F 2133122134	S097F 2133243312
S013F 2132324232	S030F 2131342334	S047F 2132323123	S064F 2132344342	S081F 2132322312	S098F 2132244243
S014F 2131311242	S031F 2131242434	S048F 2131332434	S065F 2131313124	S082F 2133232242	S099F 2133242123
S015F 2133131322	S032F 2131322342	S049F 2131331134	S066F 2132234232	S083F 2131313423	S100F 2131244324
S016F 2132124313	S033F 2133123434	S050F 2132243423	S067F 2132132423	S084F 2133112422	S101F 2131243422



## GM Series S000A-S711K

S102F	2132342122	S159F	2213324313
S103F	2131313213	S160F	2213133124
S104F	2132344242	S161F	2231231134
S105F	2131242134	S162F	2231132134
S106F	2132134422	S163F	2213211342
S107F	2131324422	S164F	2212344312
S108F	2133213313	S165F	2231121342
S109F	2131344222	S166F	2231234212
S110F	2131334424	S167F	2231123112
S111F	2132434212	S168F	2213313423
S112F	2133112423	S169F	2213242313
S113F	2132233134	S170F	2213342123
S114F	2133132434	S171F	2231123132
S115F	2132213112	S172F	2213132312
S116F	2132234342	S173F	2213132113
S117F	2231344242	S174F	2213342442
S118F	2213313124	S175F	2212344342
S119F	2213243342	S176F	2231342234
S120F	2231213113	S177F	2213113423
S121F	2231321342	S178F	2213312423
S122F	2231133242	S179F	2231342442
S123F	2213131343	S180F	2213232313
S124F	2213322342	S181F	2212343442
S125F	2232124312	S182F	2213312312
S126F	2231322342	S183F	2231342213
S127F	2231133224	S184F	2231223434
S128F	2231244312		
S129F	2232113442		
S130F	2213343134		
S131F	2213423442		
S132F	2231134213		
S133F	2231234232		
S134F	2213121313		
S135F	2213113212		
S136F	2212443312		
S137F	2213121334		
S138F	2231123312		
S139F	2213424342		
S140F	2213123132		
S141F	2213423112		
S142F	2232113113		
S143F	2213124342		
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S145F	2231211342		
S146F	2213323313		
S147F	2231134312		
S148F	2213322312		
S149F	2231121334		
S150F	2231133442		
S151F	2231342324		
S152F	2213424434		
S153F	2213243132		
S154F	2231213422		
S155F	2231211313		
S156F	2213342324		
S157F	2213131122		
S158F	2213121342		

## Guide to Motorcycles



For years locksmith have begged for a comprehensive service manual on motorcycles and its finally here!

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#MOT - 2

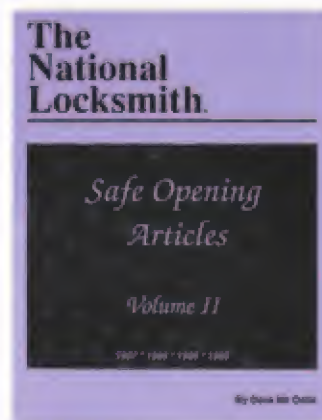
## Door Lock Encyclopedia



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#DLE

## Safe Opening Articles



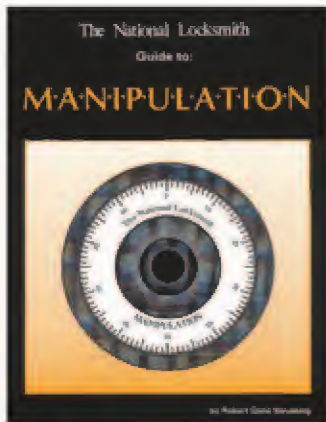
Dave McOmie's original articles from when he first started writing for The National Locksmith are reprinted in this book.

CLICK HERE TO LEARN MORE

#SA - 2



## Manipulation Home Study Course

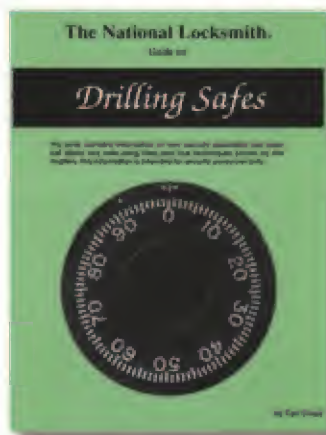


Our home study course guides you on step-by-step process, teaching you everything there is to know about manipulation.

CLICK HERE TO LEARN MORE

#MAN - 1

## Drilling Safes



One of the most expert safemen in the country, Carl Cloud has written a very important book on safe opening.

CLICK HERE TO LEARN MORE

#DS - 1

## New GM Series S000A-S711K, Part 2

S185F	2213242332	S242F	2211343242	S299F	2211331223
S186F	2213213132	S243F	2134422312	S300F	2212313312
S187F	2213343112	S244F	2134424324	S301F	2211231343
S188F	2231323422	S245F	2133244242	S302F	2133443442
S189F	2213423234	S246F	2211243313	S303F	2134234212
S190F	2231242334	S247F	2212311313	S304F	2211231122
S191F	2213123342	S248F	2212334212	S305F	2212133132
S192F	2213123423	S249F	2134323312	S306F	2211312434
S193F	2231311342	S250F	2211344213	S307F	2134232324
S194F	2231124434	S251F	2134312124	S308F	2212342312
S195F	2231134212	S252F	2212243442	S309F	2212131124
S196F	2213344212	S253F	2211233423	S310F	2134323342
S197F	2213343342	S254F	2212331322	S311F	2134224342
S198F	2231121124	S255F	2134312422	S312F	2134213242
S199F	2213113123	S256F	2212213313	S313F	2212133123
S200F	2213324213	S257F	2211321313	S314F	2134311312
S201F	2213432442	S258F	2211242432	S315F	2134234422
S202F	2232113112	S259F	2211223112	S316F	2134313324
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S204F	2213234232	S261F	2134231242	S318F	2134242434
S205F	2213133422	S262F	2211242112	S319F	2133431324
S206F	2231343342	S263F	2134423122	S320F	2134313234
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S210F	2213213112	S267F	2212313422	S324F	2134233224
S211F	2231234242	S268F	2211313342	S325F	2212332342
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S213F	2213124313	S270F	2133422324	S327F	2133244312
S214F	2231313112	S271F	2211311242	S328F	2211231124
S215F	2213134422	S272F	2211244212	S329F	2134431224
S216F	2213242132	S273F	2211242442	S330F	2134223112
S217F	2213323242	S274F	2211233124	S331F	2211342434
S218F	2213431334	S275F	2134342422	S332F	2211313442
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S234F	2231313313	S291F	2211334312	S348F	2211343312
S235F	2213342113	S292F	2134213422	S349F	2211342134
S236F	2134233434	S293F	2211334213	S350F	2211334223
S237F	2211331213	S294F	2211311224	S351F	2134344222
S238F	2134313112	S295F	2211313212	S352F	2211323113
S239F	2134433112	S296F	2211323442	S353F	2134224434
S240F	2211334212	S297F	2211231133	S354F	2212332312
S241F	2211212312	S298F	2134324212	S355F	2212313132



## New GM Series S000A-S711K, Part 2

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S358F	2211331242	S415F	2133424334	S472F	2213132442
S359F	2134243122	S416F	2211243132	S473F	2213121124
S360F	2212123112	S417F	2211334234	S474F	2231332422
S361F	2133442422	S418F	2134223324	S475F	2231224312
S362F	2211234342	S419F	2211231334	S476F	2213343124
S363F	2133432312	S420F	2212313442	S477F	2231232342
S364F	2211234243	S421F	2134242312	S478F	2213434212
S365F	2134431134	S422F	2212312432	S479F	2212433112
S366F	2212134312	S423F	2212133113	S480F	2231332442
S367F	2211313422	S424F	2211233132	S481F	2231243122
S368F	2211342312	S425F	2211244242	S482F	2231232312
S369F	2133423434	S426F	2134434312	S483F	2213243112
S370F	2134321342	S427F	2211322442	S484F	2213224342
S371F	2134421324	S428F	2134232442	S485F	2231334434
S372F	2212131332	S429F	2133421334	S486F	2213443242
S373F	2212131334	S430F	2211234313	S487F	2212431312
S374F	2212133134	S431F	2134432422	S488F	2231124312
S375F	2133443112	S432F	2134232234	S489F	2213313342
S376F	2133423342	S433F	2134243422	S490F	2213422334
S377F	2134233132	S434F	2211344232	S491F	2231321134
S378F	2211231212	S435F	2133423312	S492F	2213113442
S379F	2133432342	S436F	2212113122	S493F	2213421312
S380F	2133424212	S437F	2133442334	S494F	2213231244
S381F	2134423242	S438F	2211343442	S495F	2231323122
S382F	2133424422	S439F	2211342313	S496F	2213431242
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S384F	2134212434	S441F	2134313442	S498F	2213213442
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S386F	2134224312	S443F	2134422134	S500F	2213134213
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S392F	2134212312	S449F	2134434222	S506F	2213442134
S393F	2211342342	S450F	2231322312	S507F	2213122342
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S396F	2211324313	S453F	2231213312	S510F	2231131242
S397F	2211213123	S454F	2231231342	S511F	2231313224
S398F	2134213122	S455F	2231131123	S512F	2231312324
S399F	2211312124	S456F	2213312442	S513F	2231332234
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S402F	2134223234	S459F	2231331312	S516F	2231311312
S403F	2212234312	S460F	2231334222	S517F	2231224334
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S406F	2211334242	S463F	2231331242	S520F	2231312134
S407F	2211243312	S464F	2213134313	S521F	2231224342
S408F	2211324232	S465F	2213431124	S522F	2231331134
S409F	2133421242	S466F	2213112313	S523F	2212343423
S410F	2211344223	S467F	2231134224	S524F	2231313434
S411F	2212334423	S468F	2213132423	S525F	2212443342
S412F	2134311224	S469F	2213244312	S526F	2231343112

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# New GM Code Series

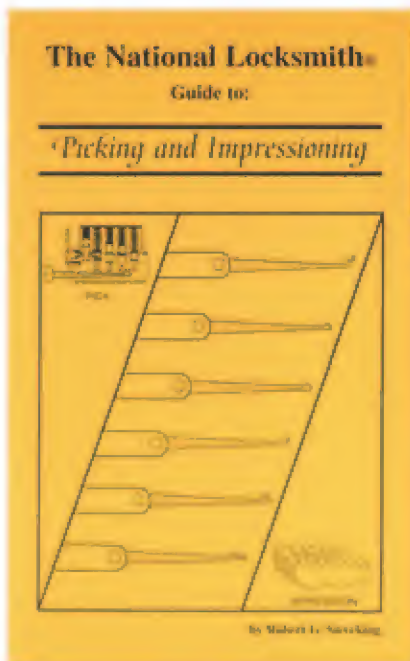
## S000A-S711K, Part 2

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S528F 2213243133	S585F 2243223312	S642F 2231133434	S699F 2233433112	S756F 2234322312	S813F 2233234242
S529F 2213342342	S586F 2242332312	S643F 2231344334	S700F 2233423242	S757F 2233424232	S814F 2233124213
S530F 2213311324	S587F 2244234312	S644F 2212431342	S701F 2234243442	S758F 2234423442	S815F 2232431324
S531F 2213233422	S588F 2242323312	S645F 2213433132	S702F 2234232134	S759F 2232421334	S816F 2234424312
S532F 2231343434	S589F 2243232312	S646F 2231243234	S703F 2242134312	S760F 2234431124	S817F 2234232434
S533F 2213324234	S590F 2242342334	S647F 2231343312	S704F 2233211242	S761F 2234434212	S818F 2232332442
S534F 2231342112	S591F 2244332442	S648F 2231334423	S705F 2234423324	S762F 2233134233	S819F 2234221334
S535F 2213343312	S592F 2244213342	S649F 2213234213	S706F 2232134213	S763F 2234421134	S820F 2233423122
S536F 2213131132	S593F 2244342342	S650F 2213113422	S707F 2233132442	S764F 2233213242	S821F 2233434222
S537F 2213243113	S594F 2243231324	S651F 2213131324	S708F 2242134434	S765F 2233112442	S822F 2232433242
S538F 2231231332	S595F 2242331324	S652F 2213133122	S709F 2232423434	S766F 2234234232	S823F 2234423234
S539F 2213112434	S596F 2244334242	S653F 2213131213	S710F 2233244232	S767F 2234342234	S824F 2232244342
S540F 2231334312	S597F 2242443312	S654F 2231243324	S711F 2234232342	S768F 2233443132	S825F 2233432422
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S545F 2234424342	S602F 2243123324	S659F 2213113242	S716F 2234342324	S773F 2234343132	S830F 2232321312
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S547F 2232423342	S604F 2242332342	S661F 2213223313	S718F 2232132342	S775F 2233234244	S832F 2234223132
S548F 2232342434	S605F 2243234232	S662F 2231342124	S719F 2233443312	S776F 2232334242	S833F 2232313122
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S550F 2232231334	S607F 2242323132	S664F 2231213112	S721F 2233422434	S778F 2232233132	S835F 2242233132
S551F 2234224334	S608F 2244231312	S665F 2231323442	S722F 2234432442	S779F 2233224312	S836F 2233134243
S552F 2242112442	S609F 2243313312	S666F 2213112124	S723F 2233423422	S780F 2234313434	S837F 2234323122
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S582F 2244233112	S639F 2231332242	S696F 2234313224	S753F 2234312234	S810F 2233121134	S867F 2234212334
S583F 2243313224	S640F 2213234342	S697F 2232443442	S754F 2233422312	S811F 2234422334	S868F 2232243442



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S870F 2232343422	S896F 2233121332	S922F 2313212312	S948F 2311312442	S974F 2311224232	S000G 2332421324
S871F 2234233422	S897F 2232433422	S923F 2311242423	S949F 2311231213	S975F 2311344342	S001G 2312312242
S872F 2233424324	S898F 2233431134	S924F 2313122312	S950F 2312323313	S976F 2311331312	S002G 2313112242
S873F 2242211342	S899F 2234233122	S925F 2311221342	S951F 2311322423	S977F 2311234313	S003G 2312233123
S874F 2233124432	S900F 2232323112	S926F 2313132124	S952F 2313212423	S978F 2313131123	S004G 2312431242
S875F 2233231124	S901F 2242133112	S927F 2311323112	S953F 2312123312	S979F 2311343342	S005G 2313133112
S876F 2232343242	S902F 2234313342	S928F 2311343442	S954F 2311323423	S980F 2312331223	S006G 2312242313
S877F 2242133234	S903F 2233234313	S929F 2313131213	S955F 2311244342	S981F 2312343312	S007G 2311223132
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S887F 2233132422	S913F 2233432242	S939F 2311313423	S965F 2312332242	S991F 2312242334	S017G 2312334422
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S894F 2233123422	S920F 2313132434	S946F 2312424312	S972F 2312132312	S998F 2311342443	S024G 2311223442



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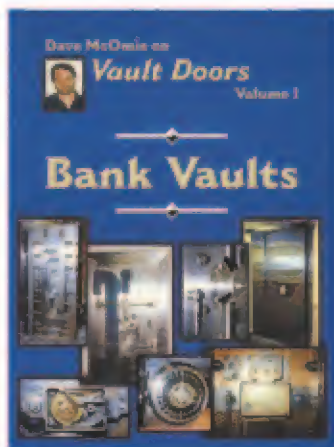
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S047G 2313424212	S073G 2242431134	S099G 2242344312	S125G 2243312442	S151G 2312434242	S208G 2312134313
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				S168G 2312332312	S225G 2312443242
				S169G 2313122134	S226G 2313134342
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				S171G 2311223113	S228G 2313112132
				S172G 2313213342	S229G 2311332342
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				S174G 2313132342	S231G 2312322342
				S175G 2312342442	S232G 2311323342
				S176G 2312342324	S233G 2312334312
				S177G 2312434422	S234G 2313213112
				S178G 2312313313	S235G 2312424342
				S179G 2312134212	S236G 2312334212
				S180G 2311344243	S237G 2311234224
				S181G 2313112422	S238G 2312311313
				S182G 2312132442	S239G 2313112334
				S183G 2312343342	S240G 2311342344
				S184G 2313123122	S241G 2311242134
				S185G 2311343132	S242G 2313213122

## Dave McOmie on Vault Doors Vol. 1 & 2



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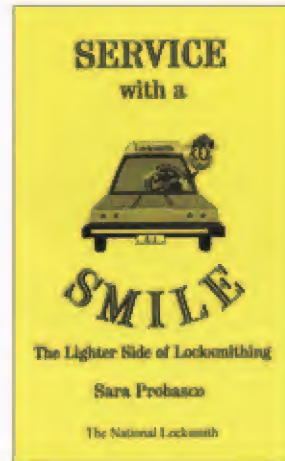
#VD - 1, VD - 2



## New GM Series S000A-S711K, Part 2

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S253G 2311234212	S310G 2313113122	S367G 2324434242
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S260G 2312423234	S317G 2313113132	S374G 2323431224
S261G 2312131343	S318G 2312334242	S375G 2331312423
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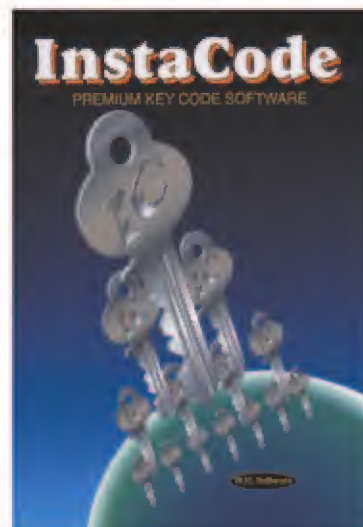


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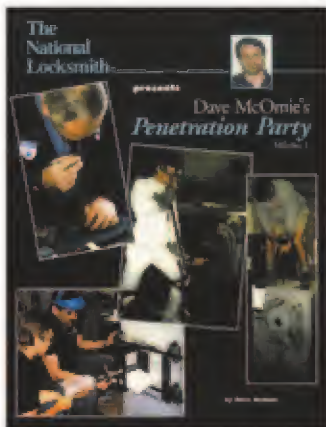
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## New GM Code Series S000A-S711K, Part 2

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S422G 2323131322	S448G 2313423342	S474G 2323112324	S500G 2321132422	S557G 2321332422	S614G 2323113224
S423G 2331234434	S449G 2321242334	S475G 2313242134	S501G 2313321342	S558G 2321312324	S615G 2313344232
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S425G 2323343112	S451G 2321334342	S477G 2323122342	S503G 2313324342	S560G 2321334243	S617G 2323121134
S426G 2323433112	S452G 2313234213	S478G 2322443442	S504G 2313423224	S561G 2321332312	S618G 2323112134
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S439G 2323324244	S465G 2322113112	S491G 2321211312	S517G 2322343242	S574G 2322332442	S631G 2313342113

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#PP - 1



# New GM Code Series

## S000A-S711K, Part 2

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S667G 2313243342	S724G 2331131312	S781G 2334311324	S838G 2342434242	S895G 2331242122	S952G 2342211312
S668G 2322331134	S725G 2331311312	S782G 2332342232	S839G 2344212434	S896G 2331132423	S953G 2331332442
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## TEST DRIVE!

Nobody loves key machines more than I do. I have worked with, and owned, the best and worst that manufacturers have to offer. HPC is long known for their key duplicators and their code cutting equipment. Most notably the 1200CMB, which has stood the test of time and is a staple in many locksmith stores and service vehicles.

**PRODUCT:** Recently HPC introduced a new addition to their arsenal of key machines. It's called the "Drill Mill." The Drill Mill is a drill operated duplicator that consists of two main components. The first is The Main Housing containing the Cutter; Cutter Shaft; Tracer and Tracer Adjustment Screw and Base Platform. The second is the Carriage containing the Key Gauge; Two Jaws; Wing Nuts; and Jaw Shafts.

To operate the Drill Mill, a drill is attached to the end of the cutter shaft. The drill should ideally be either a 1/4" or 3/8" and have a trigger lock. The drill must be able to turn at about 800 R.P.M. A drill that turns faster than 1200 R.P.M. may result in a reduced cutter life.

**OPERATION:** To operate, insert the key to be duplicated into the top carriage, flip the key gauge and adjust key shoulder flush. After adjusted tighten the wing nut. Insert the blank key to be cut in the bottom carriage and gauge accordingly. If keys are tip stopped, lay the carriage on its side and butt the tip of the keys against the base.

Make sure key gauges are down and out of the way. Then turn the drill on and set it to the proper speed.

Starting just to the right of the shoulder of the key, push the carriage into the cutter and the tracer. Keep the carriage relatively parallel to the cutter



housing. More than one pass may be needed to cut a key. Always start back at the shoulder of bow of the key.

Remove the cut key, turn off drill and debur key.

### Key Clamping Adjustments

The standard jaw is good for cutting most cylinder keys. Keys that are hard to hold due to unusual key profiles or small keys may need to use the flip side of the jaw. To flip the jaws, remove the two jaw shafts and rotate the jaws.

### Depth Adjustments

Place two identical blanks in the carriage.

Without a drill connected to the machine, move the carriage up to the cutter and the tracer. With the tracer touching the key blank, turn the cutter shaft by hand. If the cutter will not turn, or if it makes no contact with the key blank at all, the machine needs to be adjusted.

Loosen the single set screw that holds the tracer. Turn the Tracer Adjusting Knob in or out until the cutter is barely scraping the key blank and retighten the Tracer Set Screw.

### Cutter Replacement

Remove the four screws that hold the Cutter Plate. Use a 3/4" box end

wrench or socket on the cutter side and a 1/2" wrench on the Cutter Shaft side. The thread is left-handed. Replace the cutter and Cutter Plate as needed.

**PRICE:** The Drill Mill has a retail price of \$195.00.

**CRITIQUE:** The Drill Mill construction is quite good, however I found the operation of the Drill Mill to be a bit awkward, and due to its design key duplication was slow. Without a stationary spring-loaded guide for the carriage it took a bit to get use to. A few blanks were difficult to clamp in the jaws, but most could be clamped securely and did cut keys fairly accurately in most instances, despite its shortcomings.

**CONCLUSION:** The Drill Mill is designed as a low cost key duplicator that can be used in portable applications. I don't think I would have one as my sole key duplicator. As a secondary portable key duplicator, however, there is nothing else like it.

*For more information on the Drill Mill contact:*

HPC, Inc.

3999 N. 25th Ave.

Schiller Park, IL 60176

Phone: (847) 671-6280.

Circle #278 on Rapid Reply. 

### IN SUMMARY:

**DESCRIPTION:** The HPC Drill Mill is a drill operated key duplicator.

**COMMENTS:** The Drill Mill construction is quite good, however I found the operation of the Drill Mill to be a bit awkward,

**PRICE:** \$195.00

**TEST DRIVE RESULTS:** I would not have one as my sole key duplicator.